

REPORT
OF THE
BIHAR EDUCATION RE-ORGANISATION
COMMITTEE
ON
PRIMARY EDUCATION.



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Report of the Bihar Education Re-organisation Committee on Primary Education.

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Report of the Bihar Education Re-organisation Committee on Primary Education.

CHAPTER I.

PREFATORY :

THE Bihar Education Re-organisation Committee was appointed by a Resolution of the Government of Bihar (Education Department), dated 28th January 1938, in accordance with the terms of the Resolution of the Patna University Senate, dated 26th November 1937. The Government Resolution no. 245-E., dated 28th January 1938, was as follows:—

“ At the meeting of the Senate of the Patna University, held on the 26th November 1937, the following resolution was moved by Dr. Rajendra Prasad and passed unanimously by the Senate :—

‘ That the Senate recommend to Government that they do appoint a committee to report on the progress of education in Bihar—primary, secondary and university, and technical, industrial and professional—and to prepare a scheme for its expansion and intensification, always keeping in view the needs of the people, their economic condition and the financial resources of the Provincial Government.

2. The Governor of Bihar has decided to appoint a committee in accordance with the wishes of the Senate and has selected the following gentlemen to be members of the committee :—

Chairman.

- (1) Professor K. T. Shah.

Members.

- (2) Dr. Sachchidananda Sinha, Vice-Chancellor of the Patna University.
- (3) Dr. Rajendra Prasad.
- (4) Mr. H. R. Batheja.
- (5) The Principal of the Science College, Patna.
- (6) Dr. Zakir Hussain, Principal, Jamia Millia, Delhi.
- (7) Mr. Ghulam-us-Saiyidain, Principal, Aligarh University, Training College.
- (8) Professor K. D. Nag of Calcutta University.
- (9) Babu Badrinath Varma, Principal, Bihar Vidyapith.
- (10) Professor Amarnath Jha, Head of the Department of English, Allahabad University.
- (11) Mr. B. Makharji, Special Officer in charge of Primary and Girls' Education, Bihar.

Mr. Batheja will act as Member-Secretary. The Committee will have power to co-opt additional members, if necessary.

3. In accordance with the terms of the resolution of the Senate, the Committee will undertake a general examination of the whole field of education including primary, secondary, collegiate, technical,

industrial and professional education, and suggest improvements and modifications in the existing system which it considers more suited to the requirements of the Province. In making recommendations the Committee will pay special attention to the practical side of education, to the need for the study of ancient history, traditions and culture of Bihar, and to the necessary revision of the curriculum or syllabus with a view to bring education into closer touch with the life of the people, their daily needs and requirements and the problems that confront the Province. Although the scope of the enquiry is wide, the Provincial Government trust that it will be possible for the Committee, without entering into details or undertaking extensive enquiries, to indicate the general lines of reform having regard to the objects set forth above and the financial resources of the Province."

Mr. B. Mukharji was appointed Member-Joint-Secretary, under notification no. 350-E., dated the 9th February, 1938, and was subsequently appointed under notification no. 1217-E., dated the 17th May, 1938, Member-Secretary, in place of Mr. H. R. Batheja, who continued as Member only, till the 14th of March, 1939, when by Government Resolution no. 724-E., dated the 14th March, 1939, Mr. J. S. Armour, Director of Public Instruction, Bihar, was appointed to be a member of the Committee in place of Mr. H. R. Batheja. Mr. Thakur Prasad was appointed Joint-Secretary from the 10th September, 1938, and worked in that capacity till the 31st of March, 1939.

2. In view, however, of circumstances beyond the reach of the Committee, the work of the Committee was delayed for a considerable period after its appointment. With a view to avoiding any further delay the Chairman addressed the Hon'ble the Minister for Education, suggesting the need for splitting up the main Committee into certain Sub-Committees, authorising each such Sub-Committee to make its own report on the subject-matter referred to it, treating that report to be an interim report from the entire Committee; and leaving the entire Committee to co-ordinate all the Sub-Committee reports, as also to deal with such matters as may not have come within the purview of or dealt with by any Sub-Committee.

3. Government were pleased to accept these suggestions in their letter no. 2229-E., dated the 3rd September, 1938, and appointed three Sub-Committees, viz., (i) for Primary Education; (ii) for Secondary Education, and (iii) for University Education, including technical and professional education. The Primary Education Sub-Committee thereby appointed consists of Professor K. T. Shah (Chairman), Dr. Rajendra Prasad, Dr. Zakir Hussain, and Mr. B. Mukharji, Member-Secretary.

4. Authority had also been given in the above-named letter of Government to convene meetings of any Sub-Committee in Delhi, if so found convenient. Accordingly, the first meetings of the Primary Education Sub-Committee were held at Delhi from the 12th to the 16th September, 1938, inclusive. All the members of the Sub-Committee were present throughout, except Mr. Mukharji who was unavoidably delayed in arriving at Delhi till the afternoon of Monday, the 12th September, 1938.

5. In these meetings, the Sub-Committee considered in detail the Primary Education questionnaire, already framed and circulated, in order to consider the principal points involved, and take decisions on each. Every section of the questionnaire—as well as every question—was considered, both generally and in detail; and the decisions taken at each meeting of the Sub-Committee were embodied in notes, which are the basis of the following Report that the Chairman was authorised to draft.

6. The desire of Government to expedite as far as possible the Report of this Sub-Committee, so that early action may be taken on its recommendations, must be regarded as responsible for the Committee's inability to record oral evidence from those representatives of the public, experienced officers of Government in this department, or selfless non-official workers in the cause, who were good enough to submit replies to the questionnaire issued by the Committee in this behalf.

7. One hundred and thirty-six such replies have been received; and though they have all been carefully considered and an exhaustive precis prepared of the answers, the Sub-Committee regret they could not find time to invite any of those who replied to their questionnaire to supplement or explain their views orally before the Sub-Committee. The latter would, however, place on record their deep appreciation of these answers, and would earnestly assure their authors that every possible attention has been paid to them.

8. The draft Report, after circulation amongst the members of the Sub-Committee, was considered and adopted by them at further meetings of the Sub-Committee held at Patna on January 3rd to January 7th and at Delhi from February 25th to 28th, 1939, at which all the members were present.

9. This Report was submitted to the full Committee for their approval at a meeting of the Committee, held at Patna on the 17th of March 1939, and the days following up to the 20th March, and, after necessary modifications, was signed and submitted to Government on 19th April 1940.

CHAPTER II.

INTRODUCTION.

10. The problem referred to the Bihar Education Re-organisation Committee is a very comprehensive one, involving not only all phases and stages of public instruction, but also all its aspects and implications, social as well as financial, immediate as well as prospective. Though the problem immediately before the Primary Education Sub-Committee is comparatively restricted, it, too, has, besides its immediate difficulties and complexities, bearings and implications which have very far-reaching significance.

11. In accordance with the spirit of the main reference to the Committee as a whole, the Sub-Committee have interpreted the problem before them as part of the entire problem before the Indian people at this juncture, namely the problem of national development and social reconstruction. India desires national independence, not so much as an expression of national egoism, as in order to recapture the spirit of her culture, revive her moribund soul, and regain her place in the roll of nations. A new consciousness of national entity is growing rapidly in this country, which is full of hope for India to make her own contribution to the enrichment of civilisation and the progress and well-being of mankind.

12. Nationalism in India may, perhaps, on the surface, be mistaken for the corresponding force in the West, which is aggressive, exclusive and exploitive. In India, however, it is essentially different, and must be distinguished from its counterpart in the West. Ours is not that aggressive and exclusive nationalism which would seek to deny, not only personality to the individual in the search for a uniform pattern of disciplined action for a vast community, but also equality to other communities who may have a political mould, a social frame, a cultural outlook different from one's own.

13. Western nations have to be aggressive and exclusive, because, by the very condition of their being and the circumstances of their environment, they are so situated as to be unable really to depend on their own resources for all that the national life demands. India, on the other hand, can afford to be catholic in her sympathies, and civilised in her treatment of others, only claiming for herself the same equality of status

and opportunities for self-expression as she would willingly accept for others. Having ample resources of her own, she can produce all that she needs for civilised human life—material as well as spiritual—within her own frontiers. Her climate is so varied, her soil so rich, her yet untried wealth of mines and forests so vast, that she has but to provide the necessary organization and equipment to achieve the optimum standard of living within her own frontiers, and obtain her proper place in the roll of nations. At the same time, our wants are so few, our culture so catholic, our outlook so egalitarian for all individuals and communities, our ideal of truth and non-violence so all-embracing, that we can very well afford to disregard the feverish efforts of super-heated nationalism in the West to reduce human life to the level of wild life in the jungle.

14. Whatever the value of potentialities, however, for the moment we feel the force of the vicissitudes of our history in the frustration and exploitation of this country so much, that her spokesmen at times appear to lay disproportionate emphasis on narrow nationalism, and all that spells of exclusiveness and aggressiveness. This is, however, a passing phase, which will, there is every reason to believe, pass away in a short time, once the full self-confidence of actual independence is achieved, and the material ambitions and spiritual ideals are on the way to realisation.

15. Conceiving the problem of educational re-organisation to be an integral part of the main problem of our national growth and social reconstruction, we must so design our new educational system, frame its machinery, and lay out the contents of the education given, so stimulate, by the very method of education, the inherent faculties of man, that India of the next generation should become easily and completely emancipated from the slavery of soulless form, however old. The process of social reconstruction and national development need not be accomplished by any the least sacrifice of anything that is abiding and inspiring in our culture or tradition. But we must so modernise or re-energise the elements in our tradition and culture, which appear to be obsolete, that they will serve as enduring foundations on which we can raise a new structure in conformity with our present circumstances and environment, and sympathetic to our longings and aspirations.

16. In such a view of the task of national regeneration and social reconstruction, all phases and aspects, all parts and segments of the national problem are mutually inter-related. They condition one another as much in their origin and present

effects as in their ultimate solution. The problem of public instruction as part of the national problem is thus impossible to approach as though it were an experiment to be performed in a scientific laboratory, in which the exact problem to be solved is carefully isolated, and all other possible dilutions or modifications, due to adventitious or alien circumstances, kept under strict control.

17. All the facts of the national problem are inextricably connected with one another. We suffer from illiteracy, ignorance and superstition, because we are too poor to pay for abolishing these; and, in turn, this illiteracy, ignorance and superstition daily increase our poverty. We cannot regain political power and control our national destiny because we are ignorant; we must remain ignorant and poor, because we have no political power.

18. If we consider the results obtained in relation to the objectives that the designers of the existing system of education had in view, it must be admitted that the results so far achieved have amply fulfilled the basic aim and chief objective that the framers of the existing system of education had in view. If to-day we find fault with the system, or consider the results obtained to be inadequate, we must remember to lay the blame where it really belongs. We must, in the main, ascribe it to the inherent fault of the basic objective, rather than to the inefficiency of the machinery devised, or the incompetence of the personnel employed.

19. The system of public instruction, introduced in India ever since 1835, was conceived, designed, and worked on a fundamentally wrong basis, and with intrinsically inadequate objectives. In the course of a century, it may have been modified at places here and there; but its basis and objectives have remained essentially unchanged since its inception. The new rulers of the country, after the decline of the indigenous rulers, had to convey their intentions to the people governed; and they did so only through a foreign language. Similarly, they had to maintain their forms and machinery of government, also through a foreign agency. Even the fundamental conception of the State, its organ of government, and its relation to the governed, or society in general, was alien to the corresponding viewpoint and outlook of the Indian people. To facilitate the working of these their new ideas on an alien soil; to ensure support to the work of their principal agents of government; to interpret their views or intentions in regard to the governed; and to secure a loyal, dutiful force of subordinate agents, who would owe all their own wealth, status

and importance to this dominating foreign element, a system of education was necessary which would pivot on the English language, and be motivated by the British ideas of the day regarding the relation between the State and society.

20. The main objective, therefore, of the new system of public education was to train a sufficient number of local intelligentsia in the forms, methods, and ideas of the new administration, and in the language of the rulers, which would provide a perennial supply of subordinates, who would loyally work the system of administration imposed upon them, and dutifully endeavour to assimilate and interpret to their own countrymen the new ideas placed before them. It seemed to have been tacitly assumed that, apart from this local agency specially created to work the foreign administrative machinery, the people at large would be content to carry on their traditional occupations, and remain in a state of quiet subjection, without a thought of their self-respect, or a dream of a desire to control their own destiny. Even that section of the people, who had leisure to think of needs other than those of the mere struggle for existence, would gradually come under the spell of steady westernisation and modernisation, if the phrase may be used, by the unwaning influence of those set in authority in the land in virtue of their adoption of English education and western modes of thought. Hence the increasing dependence on what was known as the "filtration" theory for getting the mass of the people educated through the education of the top layer of the Indian society.

21. But the march of time irresistibly and automatically undermined this system. The advent of modern industry, and modern means of transport and communication, gradually led to the break-up of India's ancient economy. The large bulk of the people could not remain shut up in their ancient cell, and be self-sufficient as regards their needs and resources. The very nature of the British rule involved a growing contact with foreign countries through the exigencies of a growing external trade. The traditional economic system of the country was broken down at a moment when no alternative to take its place could or would be designed.

22. On the other hand, the numbers coming forward for receiving the training imparted in the public institutions, were constantly increasing. The rate of increase was so fast, and so much out of proportion to the available room for such educated persons to be employed, that the very system created its own counteraction. Discontent, therefore, with that

system, and all it stood for or implied, grew first amongst those very sections of the people who were receiving this education in ever larger numbers every year. It does not, of course, follow that in the increasing figures of educated Indians, there were no cases of genuine learning, or real scholarship born of a proper assimilation of the new learning. But they must be regarded as accidents or exceptions.

23. The dissatisfaction, as already remarked, came from the impossibility of absorbing the ever-increasing number turned out from the institutions of public instruction of every grade in the country; and not because the very basis of that instruction failed to achieve its own original objective. The irony of the situation became more and more apparent when the powers that be adopted means one after another to restrict the numbers seeking education. But one by one these methods failed to check the numbers from growing, or stop the discontent from spreading because of the impossibility to provide reasonable employment for such educated Indians. It is true that, in proportion to the vast mass of the people, the progress in numbers could not be at more than snail's pace. If we review the progress of education, such as it was, from the day of its inception to the latest date for which such statistics are available, we will have to pronounce that it failed utterly to educate the people *en masse*. Even to-day, after 100 years of this system, not more than 9 or 10 per cent of the people of India collectively can boast of the merest rudiments of literacy. If we consider the same problem by provinces, and, still more so, by communities or by sex, we would find the results even more disappointing.* At this rate of growth, as the late Mr. G. K. Gokhale remarked in 1911, it would take hundreds of years before every man, woman and child in the country

**Statistics showing the progress of Education in Bihar and Orissa.*

The following figures show the number of pupils in upper and lower primary schools, which are recognised institutions, by quinquennial periods:—

Year.	Number of pupils.	Increase per cent compared to preceding.
1911-12	597,910	...
1916-17	672,333	12.4 %
1921-22	738,188	10.0 %
1926-27	1,004,463	35.4 %
1931-32	967,317	-4.0 %
1936-37 ... ..	...	...

These represent an increase of hardly little more than 60 % in 20 years, the last quinquennium being not quite suitable for comparison, as it relates only

can boast of the merest rudiments of education even in its restricted sense of literacy. It must be admitted, however, in fairness to the system, that it never was the intention of the authors of the system to educate any very large proportion of the people of India, let alone the entire mass of people.

24. The fault, therefore, lies with the basic aim, the central objective, and the methods adopted in consequence to

to the Province of Bihar as reconstituted in 1936. At this rate there is roughly an increase of about 3% every year in the number of pupils in these classes of schools. Assuming that the number at school is 3% of the total population of school-going age in the Province (15%), at the rate of progress it would take 33 years to make every child of that section of the population, which is even now school-going to be at school. And as that is but one-fifth of the total population of school-going age in the Province, it would take, at the present rate of progress, as shown by these figures, 165 years to get every child of school-going age in the entire population at school.

To get him into school does not, of course, mean the same thing as to have him fully educated even in the merest elements of literacy most simply defined. Remembering that barely one-fifteenth of the population at school today survives till the final stage of the primary education, at the current rate of progress, we must be prepared for a total length of 2,475 years to secure proper literacy for every child of the community, without allowing for the usual increase in the number of the population; and, if we allow for that, it would probably take 3,000 years to reach the same goal. Literacy does not, however, mean proper education.

The following statistics, relating to 1935, will serve to give some comparative idea of the relative proportions of pupils in primary and in secondary institutions. The latter, it may be added, include both the high schools and middle schools, though a considerable proportion of the work done in the middle schools will, under our proposals, be done in the Basic Schools. We have, however, taken the number in middle and high schools combined as corresponding to those undergoing secondary education; and so the proportion at the present time in that stage of education would appear to be much higher than would be just to include in that category. The figures for Bihar, we may also add, are for the combined Province of Bihar and Orissa; but the proportion will not be materially different, even if taken for the separate Province of Bihar proper:—

Name of Province.	Number of pupils in—			Proportion of columns 2 and 3 compared to column 4.
	High schools.	Middle schools.	Primary schools.	
1	2	3	4	5
Madras ...	174,753	31,709	2,800,170	7.3 %
Bombay ...	113,294	29,598	1,206,882	11.1 %
Bengal ...	304,663	176,303	2,378,750	20.2 %
United Provinces	95,040	144,917	1,249,424	19.0 %
Punjab ...	147,331	483,786	1,469,642	32.9 %
Bihar and Orissa	62,574	105,284	904,808	18.0 %

impart this form of instruction. Objections to, or criticism of, the present system of education in this country have been variously urged, on grounds, e.g., that—

- (1) It is too literary in character, and suitable only for those who wish to join the learned professions.
- (2) It is far too bookish.
- (3) It involves immense wastage in primary education. Comparatively a small proportion complete even the elementary course. Teachers in such schools are deteriorating, and full value for the money spent on education is not obtained.
- (4) The primary school bears little relation to the environment of the pupil, who does not realise, owing to the atmosphere in the school, what bearing education has on the life familiar to him.
- (5) The system is dominated inordinately by examinations, which are lifeless and mechanical. Hence memory is trained at the expense of active intelligence; mass pattern developed at the cost of individual initiative or originality.
- (6) The domination of English was, until quite recently, devastating. It made such knowledge as was acquired through its medium unreal, and unabiding. Undue emphasis on the acquisition of a mastery of English has led to a disproportionate discount of general education. In some cases, it has also involved reduplication of time and effort devoted to the study of certain subjects—once in the mother tongue of the pupil, and afterwards through English.*

*Cp. Abbott-Wood Report, Part I, paragraphs 43-44 :

“ Sooner or later in the course of the higher education of Indian boys, the English language becomes not only a subject of study, but the medium through which instruction is given in other subjects. This is, indeed another great handicap from which the system of education in India suffers—the use, at some stage, of a language not native to the people as a medium for their education.

It is not possible accurately to assess the mental dislocation and the inhibitions which boys of, say, 16 years of age suffer from being required to give and receive information, to formulate ideas, to record their experiences, and to express their sense of values in a language other than that which they use and have always been in the habit of using in domestic and social life.”

- (7) An anti-national bias is unconsciously imparted through the foreign medium of instruction, and the product of such education acquires a feeling of supercilious disdain towards the life and ideals, customs and avocations of those around him. A lack of harmony and understanding thus created between the educated individual and his environment inclines the former to seek at any cost release from that environment, which can no longer be found for more than a fraction of those who seek it.
- (8) There is very little bias towards practical education or preparation for the demands of actual life because of the initial indifference of the system towards the average life of the people. Hence those educated under it become social misfits, a curse to themselves and a burden to those around them.
- (9) The average village school has been unduly urbanised which makes all these changes particularly heavily felt.*

25. We have already remarked, the present system of education is divorced from real life and its requirements. By far the overwhelming proportion of the population of Bihar live in rural areas and are connected with agriculture, and all that the present system conveys, unavoidably becomes unreal and uninteresting to the child undergoing its discipline. And because the child is not interested, nor directly concerned or personally affected, it follows that the system leaves no lasting benefits upon those who are offered up as its victims.

26. It results, therefore, that even the very modest modicum of education that this system professes to impart to the child is hardly durable or genuine in quality. The child, while at school, may remain physically present; it may even imbibe certain amount of mechanical knowledge, hammered into its memory during the period it is at school. But the moment it leaves school, all that it had learnt in school tends to be forgotten. Certainly, in the course of later life, because the education received at school had no direct relation to the demands of every day life, generally speaking, such knowledge,

**Uf.* Report of the Primary and Secondary Re-organisation Committee, Bombay, 1937-39.

or such acquaintance with the literary art and craft as was obtained while at school, weakens and is lost for all practical purposes.

27. Up till now, the education in the school has been of a mechanical character, in which memory has been stressed at the expense of active intelligence; in which the child is trained to be a passive receptacle of certain facts or information placed before it for mechanical mastery, so as to be available for reproduction when the periodical examination takes place. The child is not obliged to remain at school throughout the period needed to acquire even this limited amount of education. This education takes no grip on the child's mind and has no living relation with its personality. It has little part and less lot in the material or spiritual, personal or social, life of the individual; and so it is money and energy wasted.

28. To remedy these shortcomings, and for the better fulfilment of the ultimate objective of a sound national reconstruction, we have recommended, in the pages that follow, a system of Basic Education, which will be universal and compulsory for every child in the Province. It will be a continuous course, lasting for seven years, and commencing with the completion of the seventh year of the child on a basis of compulsion. Option may, however, be permitted to parents so desiring to commence earlier at six years complete. During this period, education will be imparted through the mother tongue of the child, and by the active method, which would make the child participate more actively in the process of its own mental and physical development. It will be focussed round some purposeful activity, some craft or work, which would be so combined, correlated and co-ordinated, through the several grades of the period of seven years devoted to this compulsory education, that the Committee believe it would suffice to supply that modicum of education, enlightenment and mental and physical growth and development, which we consider to be essential for the proper enjoyment of citizenship in a democratic State; and which is accordingly regarded as among the fundamental rights of such citizenship. For reasons of practical exigencies, it may be necessary to admit certain exceptions—at least in the initial period when the new programme of mass education is being put into force—to the governing principle of compulsory education; e.g., in regard to the education of girls. But the ideal to be held in view should be a continuous and universal education for a period of seven years for boys as well as girls, commencing with seven years (or in certain cases six) complete, and going on to the 14th

year (in certain cases 13th) complete. Within this period, the Committee believe, the modicum of education necessary for our purposes will be easily imparted, and a sound foundation laid, which would serve as well for the actual task in life of each citizen, as for further specialisation for such as could afford it. That is why we call this the Basic Minimum of Universal Education.

29. This method is, psychologically more suitable in its influence upon the growth and development of the child mentally as well as morally. Socially, too, the activity could be no less helpful and beneficial. The crafts for schools, being selected with due regard to the environment and circumstances of the child and also because they have an educative value, the child would necessarily be able to understand better the work and life of those around him, and so be more easily disposed intelligently to appreciate that work in daily life than is the case today when he stands superciliously disdainful and unconcerned with the trials and handicaps, joys and sorrows, of the life around him.

30. If the work or activity in the school is one which is of direct interest to the child, and which the child carries on by means of its own sense organs, e.g., its hands; if it has a direct bearing on the life around it, there would be no question that a permanent and abiding interest of the child itself will be enlisted in favour of making all the intentions of its activity realised. That is to say, it will, by means of actively using its own hands or other senses, not merely acquire a certain technical or mechanical mastery of the craft it is required to carry on; but also develop its own intelligence and its own understanding of the nature and mystery of that craft, and so all the knowledge incidental to the carrying on of that activity.

31. We are not unmindful of the difficulties which will have to be faced when the programme based on this principle is put into operation, nor of the vast dimensions of the problem that will have to be tackled. But before we pass on to a consideration of the details of the scheme of educational re-organisation in this Province, let us survey briefly, and in outline only, the dimensions of the task before us. Without going for the moment into the educational needs of this Province in all stages and departments of education, without considering its requirements in regard to properly trained men and women for economic development, social service, and the general cultural growth of the Province, and confining ourselves simply to the problem of providing a certain minimum

of Basic Education to the mass of the people, the following facts regarding the size of the Province, and the extent of the work needed to carry out even this limited objective will be highly instructive.

32. Bihar had, according to the Census of 1931, a population of 32,371,434, which is by this time very probably above 35,000,000. The distribution of age group in the population of Bihar, according to the same authority, shows that children of school-going age, i.e., between ages 7 to 14, would be about 15 per cent of the population. If we assume that education has to be provided for every child within this age period, we will have to make provision for over 5,250,000 children of both sexes, in round terms, as regards Basic Education.

33. At the present time, according to the report of the Director of Public Instruction of Bihar, 758,231 children are at school in all sorts of primary schools. This means that a little more than one-tenth of the total school-going population is at school at the present time. The education of even those who are at school is such that not more than 7 per cent at most can be said to complete even the primary stage of education. According to the statistics, in the report of the Director of Public Instruction of the Province, for 1936-37, there were out of every 100 students in the elementary class—

Class.		Percentage.
In Infant class	...	31.2%
In class I	...	20.6%
In class II	...	17.9%
In class III	...	14.7%
In class IV	...	8.7%
In class V	...	6.9%

34. Not all those 7 per cent of the final elementary stage can be said to pass successfully even that stage. Nor can we assume that all those who complete their primary instruction successfully retain through life the knowledge received during that period. But even granting that they do so, the present system only provides about 1 per cent of the total school-going population with the barest rudiments of knowledge or literacy, hardly adequate to undertake the duties and responsibilities of life in India, or of democratic citizenship.

35. The problem, then, for those who desire such re-organisation of the educational system in the Province as to assure that every child of school-going age shall come within the purview of that system and benefit by it, would be to find schools and teachers, instruments and accessories of knowledge, for 5,250,000 children of school-going age, in round terms. These are scattered over 67,879 villages, with an average population per village of about 500, and a few bigger towns. For these 67 thousand and odd villages there are altogether only 20,790 primary schools for boys as well as girls. Assuming 250 children per each complete Basic School, we would need about 21,000 schools. But as some schools may not have the full strength contemplated above, the number of schools needed may have to be even larger.

36. Assuming that the average school-going population is 15 per cent during the ages 7 to 14, we find that every village would provide roughly about 75 children of school-going age. Given on an average one teacher for every 35 pupils, this would demand over 150,000 teachers, as against the present number of about 30,500 teachers, i.e., in board schools (7,251), municipal schools (1,126), and private schools (22,111) = (30,488).

37. There is thus a deficit, on a modest computation, of 5,000 new schools, in round terms, assuming that a school with a seven years' Basic course provides for 250 pupils on an average, and that the existing schools are also brought up to the required standard of equipment and efficiency. Further, there is a deficit of 120,000 teachers, also in round numbers, allowing for 35 pupils per teacher, and utilising the existing staff.

38. At the present time primary education alone costs the Province about Rs. 49,00,000 per annum. Allowing for all possible economies, adjustment and retrenchment, the task of educating seven times the present number, maintaining and improving schools to the required level, and entertaining five times more teachers than to-day, must involve a money cost, according to present standards, of about Rs. 3,00,00,000 extra at least per annum on Basic education alone, counting at the rate of Rs. 20 per month per teacher on an average. Granting that this programme may be put into effect progressively over a period of 10 years—that is to say that the pace would be so calculated as to add on an average about one-tenth of the child population to the new system and allowing also for a corresponding improvement in the facilities for schools in the

villages, we will have to provide for such an intensive development in our educational organisation, machinery, teachers and other aids, instruments or accessories, that even in the initial years, and certainly over a period of ten years, the rate will have to be very largely increased, both in terms of the energy devoted to education, and also in terms of the money spent thereon. All the increase will, of course, not take place in the very first year of the new scheme. But even in the first year the expenditure may have to be doubled at least; and it will be progressively increasing, till it reaches the maximum in the tenth year and remains round about that figure thereafter.

39. It may be added that no allowance is made for capital and other increased cost of the scheme of education recommended here, which is on an essentially new basis, with new objectives, and for a new purpose. This means that while the existing apparatus may possibly be utilised, in some cases with modifications, the new apparatus will have to be devised on a very large scale if we are to prove equal to the problem in hand.

40. Finally, if we consider the rate of growth in the system of education that has been in progress so far, we must recognise that the new system will have to proceed at a very much more rapid rate than has ever been the case in the past. Proceeding at that rate, we may have to face, in cumulative and intensive form, such problems as that of the backward child, defective or sub-normal intelligence, inertia of the people, and misconception of the results of education. The difficulties would, therefore, have to be faced, not only in one phase or aspect, e.g., finance, but also simultaneously in several phases, e.g., popular opposition to the education of girls for reasons of orthodox custom and usage. But all these ought to be regarded as a challenge to our desire for a real improvement in the facilities available, and not an obstacle so insurmountable that the whole programme may have to be abandoned at the mere sight of it.

41. To re-design the system of public education on the new basis is, no doubt, not without its own special difficulties. In the first place, it presupposes the presence of teachers, who, ceasing to be task-masters, slave-drivers, or authoritarian dictators, become and remain the guide, philosopher and friend of the child placed under them for education. The teacher's rôle under the new system will be, not only to observe the activities of the child, its motor reflexes, its inherent faculties; but also to guide it, to train it, to lead it in such channels that

it may serve the ends of social justice as much as the individual's aim for self-development and self-fulfilment. Doing all this, the teacher must never seem to dictate, but only to guide; never to order or instruct, but only to enlighten; never to lead but simply to show the pathway to further and further opening in the forest of ignorance, lighting it up with the torch of self-development. At the same time the teacher must see to it that each new stage of self-expression or self-development for the child has its true objective; each forward step in the child's growth—both intellectual and physical—is productive of the fullest benefit; all the incidental knowledge is imparted and the child is enabled to obtain it lastingly while performing or co-ordinating such activity. Teachers of this description are everywhere rare, and much rarer in this land. The supply of such teachers is a serious consideration. If we cannot manage to find this supply, the scheme would be jeopardised almost at the outset.

42. There is, likewise, a difficulty created by the fact that the introduction of purposeful activities in the school, as a vehicle of education, may be fundamentally misconceived and misapplied by those who have the running of these institutions. They may consider that their own success or efficiency as teachers might be measured by getting the utmost work done by the pupils. In their zeal to increase the quality and quantity of the work turned out, they might overlook altogether the educative value of such work, the *raison d'être* of such activity figuring in all the school curriculum. If work by pupils is carried on as a mere series of monotonous operations performed mechanically, without a thought of their correlation, without a glance at their ultimate purpose, it would fail to be of any educative value.

43. A most important consideration to be borne in mind in the choice of the activities, their organisation and working in the school, is that the crafts selected must be of an educative value. No doubt, due regard will be shown to the environment and inherited aptitudes of the child in selecting such activities. But even so, we must remember that such regard is shown in the hope of making activity more understandable, more familiar,

the work; if only it has learnt to co-ordinate this work with other activities in the school; if only it understands the place of planning, organising and working in concert for personal as well as social needs; if only it has learnt to perform a task undertaken thoroughly and well; and if it has come to appreciate the significance of thoroughness in work, all that is expected of such purposeful activity as instrument of education would be fulfilled. Persons so trained or educated would be educated in such a real sense of the term, that they would easily acquire mastery in any trade or calling they may have to undertake in future life.

44. It must be noted also, that the entire programme would be a programme of activities—manual, intellectual, and social—mutually co-ordinated into an integral whole. A variety of mutually complementary and supplementary activities and operations, with a due appreciation of the science behind each, will be carried on in a carefully echeloned series, so that each simpler activity naturally leads to a more complex activity, deepening and widening the knowledge at each such stage. Even though mere repetition of an activity would be necessary for purely educative reasons, every care must be taken to avoid an activity in the school from degenerating into a mere mechanical repetition of one and the same operation, one and the same function, one and the same method, and one and the same mode of thought. At every stage, there must be some correlation between doing and thinking, between action and its reflex in the mind or the being of the child, so that every activity has its replica in the moral, physical, and intellectual growth of the child.

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CHAPTER III.

AIMS AND OBJECTIVES.

45. The basic aims of a system of public education are not to be arbitrarily imposed from above, however well meaning the imposing authority may be. If they are to serve their purpose effectively, they must be naturally evolved from the conditions and circumstances of the people for whom the system is designed. They must, in other words, be in response to the urge felt amongst the people themselves, rather than an answer to any preconceived notion of what they should have, or what they must be. The latter, as we have seen, was the chief fault of the system of education imposed upon India by the exigencies of British rule. The new system now proposed to replace it cannot take too great a care that it does not repeat the intrinsic error of that system. Only if the central aims and objectives of education are naturally evolved, would they be properly correlated and in harmony with the environment, which, in its turn, would best nourish and fulfil its objectives. In so far as the conditions have altered, and the lines of future growth amongst our people changed; in so far as the circumstances of our national life, its purpose and end have been modified, the aims and objectives of education must necessarily change.

46. The task, therefore, before us is to find how best the changed conditions of life may be expressed in the new aims and objectives of our education. The ultimate purpose of all education is to enable the individual to live a worthy life. To do so he must be prepared to adapt himself to his environment, social, political, as well as physical. As Plato put it over 2,000 years ago, the aim of all education is

“to develop in the body and in the soul all the beauty and all the perfection of which they are capable.”

What constitutes such beauty or perfection is, indeed, determined for the person to be educated by those educating. It is the notion of the present generation of adult mankind which shapes the education—and, therefore, the mental, spiritual, and physical make up—of the coming generation. However much we may desire to make the child to be educated the focus and starting point, we cannot ignore the demands of society collectively as understood by the present generation of adults.

And in so far as the requirements of the child to be educated may not be possible to reconcile, after every attempt to do so has been made with the requirements of the community in that behalf, the former must be subordinated. To quote another authority on modern educational re-organisation* :—

“ In order to determine the main objectives, that should guide education in a democracy, it is necessary to analyze the activities of the individual. Normally he is a member of a family, of a vocational group, and of various civic groups, and by virtue of these relationships he is called upon to engage in activities that enrich the family life, to render important vocational services to his fellows, and to promote the common welfare. It follows, therefore, that *worthy home-membership, vocation, and citizenship* demand attention as three of the leading objectives.

Aside from the immediate discharge of these specific duties, every individual should have a margin of time for the cultivation of personal and social interests. Education for the worthy use of leisure is of increasing importance as an objective.

To discharge the duties of life and to benefit from leisure, one must have good health. The health of the individual is essential also to the vitality of the race and to the defence of the nation. Health education is, therefore, fundamental.

There are various processes, such as reading, writing, arithmetical computations, and oral and written expression, that are needed as tools in the affairs of life. Consequently, command of fundamental processes, while not an end in itself, is nevertheless an indispensable objective.

And, finally, the realisation of the objectives already named is dependent upon ethical character, that is, upon conduct founded upon right principles, clearly perceived and loyally adhered to.’’

**Cardinal Principles of Secondary Education*, pp. 9-10, United States Department of the Interior, Bureau of Education Bulletin, 1918, no. 35.

47. The principal objective of education sought by this great authority on educational re-organisation may be summed up, starting from the individual, as—

- (i) health;
- (ii) command of fundamental processes;
- (iii) worthy home-membership;
- (iv) vocation;
- (v) citizenship;
- (vi) worthy use of leisure time; and
- (vii) an ethical character.

48. Another authority on education says** :—

“ Life is more than vocation, more than culture, more than knowledge, more than citizenship. All these interests, to be sure, are interwoven in an endless tangle so as to give some colour to the notion that some one of them may be the final end, for which the others serve as means. It is evident, for example, that vocation and knowledge are necessary for good citizenship. But the converse is also true; and in any event, our perspective becomes distorted if we accord no value to knowledge of vocation except that of means to an end.”

49. A modern educationist, John Dewey says in his *Democracy and Education* ' (pp. 138-45) :—

“ If an individual is not able to earn his own living and that of the children dependent upon him, he is a drag or parasite upon the activities of others. He misses for himself one of the most educative experiences of life. If he is not trained in the right use of the products of industry, there is grave danger that he may deprave himself and injure others in his possession of wealth.

Ultimately social efficiency includes good citizenship, for it means neither more nor less than capacity to share in a give-and-take of experience. It covers all that makes one's own experience more

**Vide Boyd H. Bode in his *Fundamentals of Education*, p. 11.

worth-while to others, and all that enables one to participate more richly in the worth-while experiences of others.

This is impossible without culture, while it brings a reward in culture, because one cannot share in intercourse with others—without learning—without getting a broader point of view and perceiving things of which one would otherwise be ignorant.”

50. Let us, then, consider, in our attempts at educational reconstruction for the India of to-morrow, a change, not only of the forms and methods, but also of the basic aims and objectives of our system of public education. We shall consider the detailed objectives of the new system of education hereafter. Here let us consider in general the objectives to be held in view.

(1) The first objective is with reference to the child : so to develop the personality of the child—the citizen to be—as to make it able, not only to adapt itself to the environments and circumstances around, but also to control and dominate those circumstances and environments, so as always to push it forward in its endeavour to be progressive. For this purpose, the educational system must be so designed, its methods so devised, its content so framed, as to draw out the inherent faculty or capacity of each child undergoing such process of self-development, and make it best able to find self-expression and self-fulfilment, not as a helpless victim of circumstances around him, but as an intelligent participant in the moulding and ruling of those very circumstances. Passivity in the school child must, therefore, be replaced by active and intelligent co-operation—through its own experience in productive effort—with those aiding it in the process of self-development.

(2) The second objective is with reference to society. The child must learn to be a social individual, acting in concert with his fellows. Side by side with undermining or destroying the tendency to emphasise selfish individualism, there must be an emphasis, in our system of public education, on personal initiative, independent thinking, and originality. To be social, to learn to act in concert or co-operation, does not necessarily imply any discount on personal initiative or individual enterprise. The two objectives are, therefore, not mutually incompatible. Only, the growth of personal initiative or individual enterprise must be weaned from the

tendency to be exclusive, exploitive, or predatory. It must be trained for social or common benefit, instead of being an engine of individual aggrandisement.

51. When the principal objective of education is thus re-oriented, and the method of education has been redesigned in consequence, the result of such education would inevitably be that the India of the future, thus educated, will be easily able to make her own contribution to the progress of mankind.

52. In order to appreciate, in the proper perspective, the reasoning in the pages that follow, and the recommendations made therein, it may be as well to summarise the assumptions on which the reasoning has been based, and to realise which the recommendations have been made.

53. In the first place, we assume the existence of a democratic State, i.e., a government for the benefit of all, by the representatives of all, and through their responsible agents. The educational reconstruction recommended in the following pages has been devised to fulfil this ideal and realise these aspirations. The democratic principle of government involves civic equality amongst the various sections of the people, as also between individuals themselves, irrespective of sex, birth, or wealth, so that every individual would necessarily have equal opportunities of self-expression. All social barriers or other restrictions, which impede or preclude practical civic equality amongst the people, must be abolished. The education must be such as to enable the individual to override and defeat the forces of such barriers as may persist notwithstanding attempts at their removal.

54. Such a democratic State, again, must be assumed to be a progressive organism, a dynamic entity. While seeking the best that can be obtained under given circumstances, it is at the same time constantly striving to improve those circumstances. The purpose of education must be, not merely to adjust the individual to the environment, but also to place him in such control of the environment, and make him so capable of reacting upon the environment, as to prevent the environment dominating the individual. The environment, with all the might of nature behind it, must not make a slave of the individual in spite of his helplessness. Education must, therefore, so develop the innate faculties of man, and strengthen his grasp over the forces of nature, as to make him master and dominate the material forces around him and make them serve his purpose.

55. In the present condition of life in India we are of opinion that education to be provided by the State at public expense must needs be secular. A democratic State among a people with divergent religions cannot, we feel, effectively take upon itself the responsibility of providing religious instruction. Religious education should in our opinion be primarily the charge of the family and the community; but the State might continue to provide such facilities in this connection as are now available.

56. On these assumptions, we must be resolved, as a matter of fundamental national policy, to afford to every citizen a given minimum degree of education. The basic minimum of universal compulsory education, which must be imparted as a national obligation of the community to every child in the Province, free of cost to the recipients or their parents and guardians, must be so devised and conducted as to embody these central aims. It is a fundamental right of citizenship, which must be taken to be an obligation of the community, to which there can be no exception or limitation. Considerations of financial ability, popular prejudice, or economic necessity must all be subordinated to this fundamental need of the community. If money or men are not available, they must be discovered. If people's prejudice or superstition stands in the way, it must be combated until it is destroyed. If the economic conditions of the moment seem to constitute an obstacle, any sacrifice by the community at large ought to be regarded as none too great to achieve this measure of social reconstruction.

57. The contents of the basic minimum of universal compulsory free education will be dealt with elsewhere. Here it is necessary to add that if it is designed in accordance with the new objectives outlined above; if it is inspired by the new motive; if it is characterised by a new emphasis in conformity with the changed conditions of life and ambitions in the country, there is no reason to apprehend that any considerable proportion of the people would object to its children benefiting by such education, or would refuse to avail themselves of the education so provided.

58. There are, no doubt, considerations inherent in the actual life of the people of India, which may incline some to look askance at everything on this scale, and of this kind. Up till now, people have been found to object to modern education, because they have failed to appreciate its benefits; or because

they found it useless, irreligious, and calculated to make those who receive it, supercilious and disdainful to the life from which they themselves had emerged. Much of this opposition must, however, automatically vanish, because of the changed objective and viewpoint of this education. It would only be necessary to explain more fully this altered nature of public education, its aims and objectives, its methods and machinery, in order to neutralise all fear of the people at large resisting it. The new organs of public opinion, also, such as the people's representatives in the Legislature or in popular local bodies, may help the public to appreciate the benefits, as well as the necessity of universal education, at least, up to a given minimum degree, so that, if there is any opposition, or resistance arises through ignorance or misconception, it could be easily combated and defeated.

59. There is a certain degree of opposition to universal education, not because people do not appreciate its benefits, but rather because they cannot afford them. Compulsory education up to the age of 14 (or, in some cases, 13), as proposed in our scheme, would automatically withdraw growing children from the labour which their parents need to carry on the struggle for existence. Any abstraction of the child's labour and what it earns will naturally be unwelcome to the average Indian parent, living under such straitened circumstances throughout his life. That a child put prematurely to work would undermine its own health and strength, and so become less and less efficient as a production agent in the future, is a danger to the society which the parent, obsessed by his immediate necessity, does not perceive, or will not appreciate. The facility of educating the child absolutely free of cost to the parent will go a long way, no doubt, to remove part of the objection, at least in so far as it might arise from the fear of additional burden being imposed on shoulders least able to bear such burden on account of educational fees. But the greater portion of the objection is due to the fear of losing the supplementary aid to the family budget from the children's labour. This can only disappear in time and in proportion as a better social re-organisation takes effect. If all educational apparatus, equipment and accessories are provided free of cost to the child, the additional burden on the parent's shoulders will be negligible. The cost to the State or the agency providing such facilities, accessories, or equipment, will also be minimised, if provision for all these is undertaken on a large scale as a public enterprise.

60. Inasmuch as the proposed system of education is to be a compulsory, universal arrangement, by which it is intended to provide a minimum of education for every man and woman of to-morrow, we must be certain that the compulsion we introduce succeeds in the object with which we introduce it. Whatever the aim and purpose, the nature and meaning of education lie in that growth, development and florescence of the inherent faculties of a human being, which marks the civilised man progressively from the savage. Such education would not be complete unless and until the active participation and intelligent co-operation of the person to be educated is enlisted in the task.

61. If the child is uninterested in the education placed before it, or imposed upon it; if it cannot fix its attention willingly upon that task, it will necessarily fail to imbibe and assimilate such knowledge, or help in the process of its own growth and development, because its willing collaboration is not enlisted in that behalf. No knowledge, information, or enlightenment is truly and permanently acquired, no inherent faculty really developed, no inborn capacity properly cultivated, unless it is the result of a child's own living and actual experience, and has so become an integral part of its life and consciousness.

As the great educationist Dewey remarks :

“ Our whole policy of compulsory education rises or falls with our ability to make school life an interesting and absorbing experience of life.”

62. The child's interest can be aroused and maintained, if the method of educating it, the means or apparatus, the facts and ideas making up the sum total of education, are so selected, arranged, combined *inter se*, and presented, as to constitute not so much accumulation of dead lumber to be stored in the warehouse of memory, but an intrinsic ingredient of the child's own personality, an indispensable stimulus to the child's inborn capacity, a natural, sympathetic complement of its environment, a mark of the growth of its physical and intellectual capacity, its mental as well as bodily powers, its intellectual as well as spiritual being.

63. Let us now consider the nature, object and kinds of “ purposeful activities ” as a medium for educating children, which should be introduced as a basic or governing factor in our Basic Schools under the proposed system. Let us also understand the reasons why we prefer this method. It is preferred for positive as well as negative, individual as well as social, considerations.

64. The positive and individual reason for this change of method consists in the very nature of the human child—the experimentally observed course of its bodily and mental growth and development. Education will be real and abiding; it will help the citizen of to-morrow to live his own life worthily, and yet make a substantial contribution to the well-being of the people around him, if it is imparted through this medium.

65. The social reason likewise follows from the same generic consideration. To be a worthy, useful member of a democratic, co-operative, egalitarian society, the child must learn from its earliest years the value of collaborative effort, and the virtue of a social rather than an exclusively individualistic outlook. It is only when, and in so far as, this new outlook and habit of teamwork have been thoroughly acquired, that the root vice of modern individualism would be neutralised, and human society attain the maximum of its potential capacity. Only in active, objective work, and by direct personal experience, can this new outlook and habit be acquired; and hence the need for a radical re-orientation in our educational system.

66. The purposeful activity selected, the work done, or the crafts practised in schools, must be such as to have a direct, objective, personal interest for the child. It must have some immediate bearing upon the life of the entire community among which he lives and moves, and has his being. We shall consider elsewhere a list of these activities that seem suitable for introduction in the Basic Schools in Bihar, both rural and urban. But the fact cannot be emphasised too much or too often, even at this stage, that we should be misconceiving altogether the nature and purpose of these crafts or activities for arousing the interest of the child as an engine of its own education, if we regard the personal interests to be aroused as anything but an identification of the growing child with the facts to be learnt, the information to be acquired, the experience to be lived. If the activity is no more and no less than a response to the urge of the growing faculties and developing capacities of the child, all that comes in its wake as training or knowledge, or opening of the eyes—mental or physical—will be no burden at all. Nor will it involve any artificial stimulation, needless distraction, or dissipation of the child's energy. Educative effort that the child itself puts forward, which succeeds most in educating it in the sense defined above, is the outcome of the child becoming progressively

more conscious of the aims and purpose of his activities. Because the child thus becomes conscious, learns to act and think at the same time, it becomes able to substitute for blind effort a deliberate plan, and purposeful work for mere drift. This has the greatest possible educative value in making the child realise, as it were almost unconsciously, how to unfold to its own inherent faculties, and make it interested in its own development.

67. Another consideration is also found embodied in the same reasoning. Inasmuch as all education is ultimately the development of the inherent faculties of the individual to be educated—so, however, that the powers and faculties thus developed help to work for the greatest common good of the community at large—the activities would be so selected, so organised, so combined, so presented, and so worked, as to be of the utmost benefit to society in regard to the habits it engenders and the outlook it develops in the educated child. The interest and stimulus afforded by the community around will then progressively intensify the process of the child's education, and so make its results all the more abiding.

68. On the other hand, it must be admitted that, if the purpose of education is to fit the child for the life to be lived later on, it must realise—and it is never too early to realise it—that life is not at all a bed of roses; that one has to face many disagreeable, unwelcome, undesirable situations; that one has often to work against one's own ambitions and desires, and strive in directions, under conditions, or with objectives, not always pleasurable or agreeable, or sought after. If from the very beginning, the child is made to strive only for that which is most agreeable, and in which its interest is most naturally held and kept, it may quite possibly be a spoilt child, a weakling, liable to break down at the first contact with adverse environment. The ability implanted, or rather the faculty cultivated from the earliest age, not only to adapt oneself to one's own environment, but also to remould it by persistent effort under a conscious purpose, or at least to improve or modify it, not only to suit one's own desires, but also as likely to be most beneficial to the community collectively, is an important ingredient of good education. This may not always be engendered if only agreeable activities are made the exclusive means of education. A constant demand for an agreeable sensation as the only condition of arousing and maintaining interest with a view to educating the child may automatically lead to spurious excitement. By its very nature, such a stimulus

will not be abiding; and when it fails or weakens, it may take away, like the receding tide, all that had been brought when the tide had first flowed in. Any activity which is liable to this ebb and flow of a spasmodic nature is bound to be lacking in that continuity, that persistence, which is indispensable for a real process of education, growth, or development.

69. The activities we are seeking here are, as has already been observed, a form of self-expression, a response to the inner urge of the growing child's own faculties. In their case there would be no need for artificial stimulation. In their pursuit, there would be no mere search for pleasurable excitement. Such activities become the law of the child's own being, an unconscious purpose of its own existence; and, therefore, as inescapable as life itself. There need be no false, spasmodic stimulation of attention or interest. There is hypocrisy which unconsciously occurs when interest is shown where none is felt, because of outside compulsion enforced by a false fear of punishment or hope of reward. On the contrary, such activities would be a sustained endeavour, because of the genuine interest felt in mere response to the urge of personal growth. No true effort will be called forth unless the real interest of the person educated is aroused; and then the effort will not be felt as a strain.

70. The activities likely to prove truly educative in this sense vary with the age of the person to be educated. The school should keep this in view in the choice of the craft activities which would form the nucleus of its educational work during the age-period 7 to 14 years. A brief survey of the growth of activity in the child from birth onwards may not be out of place here. At birth, every human being is the most helpless of all animals, and takes a longer time and greater effort to learn to use its physical equipment than the young of any other animal. The first stage of education takes place when the child learns to move the muscles of its mouth to take in food, and other parts of its body to help evacuation. The gradual growth in the control of muscles and organs to carry on other such bodily activities brings in the first faint glimmerings of the dawn of thinking, the correlation of an inborn urge with its fulfilment by a given effort. This also constitutes the first dim realisation of the correlation between means and end, though the end may be no more than fulfilment of personal needs, and the means no greater than an appropriate use of bodily organs.

71. By this time the child has acquired knowledge of how to use all its organs or means of sense-perception, for walking, eating, drinking, talking, and discharging the waste substances accumulating in the body, as well as some understanding of the means of keeping fit. The educative activity, if it has to succeed really in its basic objective, must be such as to be the result of no obvious dictation, or compulsion, as such activity will have no significant reaction on the mind of those who perform it. Further, it must be such as to be of a continued and persistent character, so that a sporadic reaction, with no abiding effect may not be called activity. Lastly, it must not degenerate into merely a mechanical or routine habit, in which the muscles perform their task without any thought of co-ordinating the means to the end, and the effort to the purpose sought to be attained thereby.

72. Next after the movement of bodily muscles come the activities of more developed and specialised bodily organs, in response to the sense of seeing and hearing. Here also, co-ordination between the end—or meaning of what is done—with the means of doing it, is a subconscious process, involving more and more thinking, and so resulting in a progressively rising sense of mastery or self-confidence, which is an indispensable ingredient and integral feature of sound education.

73. All this takes place while the average child is under the control of its parents or guardians, who but very rarely realise the responsibility of helping a growing child to grow. Much of the handicaps or fixations or repressions hail from this period because of the faulty work of the parent or guardian in this process of education, or because of vitiated home atmosphere. This is a hardship of our present social organisation, on which it is needless to offer any observations at this stage, though we may have to glance at it again in our chapter on Pre-school Education.

74. The next stage comes when the child's organs or senses are made to function so as to carry the task of co-ordinating the object with effort, the means to the end, the feeling of power or a sense of mastery obtained by these means, a stage further, by means of *materials and tools* other than one's bodily organs. Handling of the tools, manipulation of materials, understanding of the process involved in that manipulation, and experience of the results obtained will provide the next and more complex stage, in which the process of education, that is to say, the self-development of the child, will go still further.

75. Next after the mastery of the use of tools and instruments, with all the aid they provide in the intellectual growth of the child and his grasp of knowledge connected with such operations, there comes further co-ordination of the different aspects of the work, all the methods of working the tools, and the place of the work or its result in the general scheme of social utility. Co-ordination of means to an end, manipulating instruments to achieve a pre-considered design, planning of a complex task involving division of labour in time as well as space, forethought for the future—all fill this stage in varying degrees, and aid in this process of all-round development of the person participating in these manifold activities. In proportion as this is achieved, it will help to inculcate proper knowledge and appreciation of the connected or incidental sciences or departments of learning, which go to make up the fullness of education up to the prescribed minimum stage.

76. In every instance, this method not only develops the inherent power and faculty of each child, but makes that power and faculty instrumental in the further development of all connected and mutually inter-dependent capacities or faculties. The essence of the scheme will be achieved if it helps to promote a sense of mastery by accomplishing something. It is "learning by doing", as Dewey puts it, and generates a feeling of self-satisfaction for having produced something of obvious utility, something that is definitely pleasing to the producer himself, something, therefore, which implies a sense of the beautiful, of fullness and fitness, and of self-fulfilment.

77. Let us now consider a little more fully the list of purposeful activities in their organised order for introduction in schools. The syllabus added in the appendix to this report gives in detail, and in proper grades, the activities that should be introduced with a view to helping in the process of education of the young. Here we consider these only as illustrating the general principles sketched above.

78. When the child has mastered the art of locomotion and understood that of transportation, when it has learnt to understand the necessity of personal cleanliness and of the things and places around it, it is ripe for learning to engage in those services—such as sweeping, cleaning, washing, bathing and arranging things in proper order, in the home or in the school, which may form the next stage in its education. At this stage regular school-life and systematic education may

well begin; though even here it would be unnecessary to convert these simple ordinary services into such educative tasks as would prove a burden to the child beyond its capacity. But if these simple services are made to appear in response to purely personal needs, or as a kind of co-operative effort both in school and at home, attention to health, or education in the matter of personal hygiene and cleanliness of the environment will be soon developed.

79. The next stage consists in such movement of the hands in simple occupations, and on the simplest materials, as results in concrete products. In this the child not only acquires a sense of mastery and self-confidence as producer of visible or concrete objects; but also finds a sort of self-fulfilment. If these activities are selected with due regard to the personal environment of the child, and the circumstances of its parents or guardians with whom it lives, the activities will have a direct personal interest, which will not be lost the moment the child leaves school, but which will be an abiding experience of its life. For a poor country like India, and for one of the poorest Provinces in that country, it may not be possible to provide a large variety of purposeful activities in schools, to suit each individual variation; but even here the presence of large numbers to be dealt with, and the relative uniformity of the environment, may easily help to provide a sufficiently large variety of activities to neutralise this handicap.

80. Such tools as pencil, pen or brush; such materials as paper, card-board, match box, wood, metal, textiles; such implements as knife, saw, gimlet, plane, right-angle, thread and needle, scissors; such simple processes, as the application of heat needed in cocking—all these help to illustrate to the child's mind the use of an article or an instrument, or the application of energy, to bring about a change in another article, in other words, to bring about a new product. Here already a complicated educative process takes place. The use of tools—which must be regarded as nothing more than an extension of personal organs or limbs of the child—and appliances or processes upon objects and materials placed before it represent to the child a growing sense of control and domination over external objects. The complicated activities resulting are of longer duration than the immediate moment.

81. The use of tools and processes upon materials results, moreover, not merely in the exercise of bodily muscles and organs, but also in the development of the child's technical

skill which has its own importance in the process of education. And if, focussed round or based upon the use of these tools and materials, is introduced an explanation of the nature and function of such tools and materials, the history of their discovery, the place where the materials can be found, the purpose for which the products can be used, the method and meaning and recording of their size and shape and use, the kind of processes used, the programme of education will be very much advanced, with very little proportionate outlay of labour on education. Reading, writing and speaking one's own and the common national language; simple calculation, and mensuration; history, and geography; elementary physics including mechanics and chemistry, biology of plants and animals, personal hygiene, household economy, and elementary social services, can all be co-ordinated with the principal activity of the child at school without any sense of burden, routine or uncongenial toil.

82. The bulk of the earlier years in the Basic School, say from 7 to 12, should thus be devoted to these simple tasks or occupations, their meaning or place in life, as also the use of tools and materials needed for an efficient carrying out of these occupations, with an explanation of all the incidental sciences or departments of knowledge connected with the use and disposal of these products. Because knowledge is thus acquired as part of one's living experience, as a result of actual doing, it is better grasped and becomes more abiding.

83. The work is thus really an excuse for the proper use of tools or intermediate organs and appliances for a remoter end than some joy of creation for the moment. There is, of course, a stage in the process of education, when the mere sense of joy or satisfaction in producing an article will itself be the only object in the child's consciousness. But as the mind develops by wider and wider experience, and better understanding of the means and end, the appreciation of the distant objective grows. A correlation is soon established between conscious thinking and the nature of the activity carried on, tools used, materials employed, processes applied. This means a still further step forward in true education. Even when it yields no more than the sense of satisfaction in having produced something, it helps in the development of manual skill, and artistic perception. This stage of education may, therefore, include, besides working upon the materials and with the tools mentioned above, such activities as simple drawing and plan-making, painting and music and modelling.

84. It may be necessary in the next stage to combine or co-ordinate *inter se* some of these activities, with a view to educating the child in the complexity of the social needs, and the value of planning for requirements ahead. Adjusting means to end, and providing organised social operations, co-ordinating seemingly different and distinct pieces of work into a common objective for a future necessity, indicate and minister to a further growth of mental faculties. The teacher's guidance becomes more didactic, even though his demonstrative rôle is in no way relaxed. The explanation of the adjustment; the inter-relation between distinct operations resulting in a composite product or series of products for a future objective; the importance of planning, organising, co-ordinating—all these are addressed directly to the mind of the child.

85. The child now begins to be interested in discovering, or finding out all the changes that happen under given circumstances. From this to adjusting tools, materials or processes to new creations on predetermined lines is but a step. Experimentation thus commences with known articles and processes for some unknown results, or unexperienced phenomena. The interest now assumes a definite intellectual form, which does not cease to be personal, immediate, or objective; but which yet involves a new quality that takes the child's life or consciousness beyond the immediate requirements of the moment, beyond a direct interest exclusively in the actual process or immediate result. Incidentally, all connected sciences or departments of knowledge will also be placed before the child—explained to it and grasped by it, through and by means of such activity. The ordinary literary education, with which we are most familiar in this country, will by this means also not be ignored. Only, it will be taking place side by side, and without appearing as a task, during all these years as part of these activities.

CHAPTER IV.

PRE-SCHOOL EDUCATION.

86. From what we have said so far, it would be evident that education, in the sense we have defined above, begins almost from the earliest infancy of the child. An organised system of universal public education conducted by the State naturally cannot begin for the children of the community till they are at least six or seven years of age. That is to say, the children must be able to look after themselves sufficiently to come from home to school and *vice versa*, to sit or stand or move from place to place without obvious danger to their life or limb, and to have their mental faculties developed to a given extent, however limited, so as to be accessible to ideas and be competent to carry out the work regarded as an instrument of such education, before they can be admitted into an ordinary primary school.



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Bertrand Russell have recognised the educative value of parental care, attention and guidance, which no merely institutional life can provide. The cultural value of home atmosphere, its aid in the formation of habit and character, its service in what may be called proper upbringing, cannot be over-emphasised, though it must be recognised that really cultured homes are rather the exception than the rule. In any case, it would not be in the interests of the rising generation to socialise the child so completely as to dispense altogether with the sympathy, affection, and guidance of parents. Considerations of finance are thus as important as those of a psychological nature in disposing us to hold that the State cannot assume this responsibility on a universal scale.

89. The problem, therefore, for making some arrangement for a proper utilisation of the period just preceding the age at which the child would be admissible to a regular Basic



sort of standard, model form for this kind of training. In such areas we would recommend nurseries, creches and kindergartens, being established for the children of such populations, either directly at public expense, or through the agency of the factory-owners. The former alternative, if adopted, is liable to expose Government to the charge of partiality for the industrial proletariat or town-dwelling population. The mother, however, in the ordinary rural area is able to pass much more time with her younger children than the average mother who is also a working woman in an industry. We would, therefore, prefer the latter alternative, and make it an obligatory duty on every large-scale employer of female labour particularly to provide such institutions for the children of his work-people. The direct agency of the State for establishing and maintaining such institutions must be restricted to such industrial areas, where, though the population is concentrated in a fairly large degree, there is no single employer of labour on a scale large enough to permit of such an obligation being imposed. For the country at large, the agency of private associations engaged in social service must be utilised to provide such necessary nursery schools, children's clubs, and kindergartens.

91. It may be added, in passing, that every item of the apparatus, equipment, and methods followed in these last named institutions, need not be provided in every institution of this *genre*. Not only are they often too expensive; they are originally not designed with special reference to Indian conditions; and so are not indispensable, because we can devise our own corresponding equipment. It would be much more helpful in the cause of true education, and also more economical, if our own equipment is designed, and produced in large quantities to meet all our requirements in this behalf.

92. The State-aided pre-school institution must follow the lines chalked out in the preceding chapter to aid in the process of the children's self-development, and the growth of their bodily and mental faculties. Private associations shouldering this great social responsibility must be subsidised financially by the State, and helped by expert aid, provided they follow the same lines of education as have been accepted as fundamental by the State. The aid and subsidy contemplated in this regard must be calculated so as to meet a prescribed proportion of their cost for conducting this work.

93. The period devoted to this kind of regular treatment may be from the age of three to six years at most. In this the

education, training, or guidance of the growing child would be rather from the point of view of keeping the child engaged healthfully, and looking after him during the time that his parents cannot attend to him, than for any specific objective of regular or systematic education. The education in this period, such as it is, would, therefore, be carried out in the form of games and sports, under the supervision or guidance of teachers or social workers specially trained in that behalf, without in any way becoming a burden upon the child. Certain habits of personal hygiene and cleanliness, and of decency in dress, speech and manners, must be cultivated in accordance with the requirements of such social life and the next period of general education. But this cultivation must be in the ordinary course of life, and almost unknown to the child, so that no sense of a burden is felt by it in these tender years, no inhibitions contracted, no complexes formed.

94. Disciplined habits and regular work, which are the salient features of institutional organisations, have, no doubt, a tendency to monotony, to flattening out individuality, personality, or initiative to a common level of dead uniformity, which militates seriously against our desire to cultivate personality, to develop originality and enterprise in the child later on in life. To this extent, the pre-school institution of the type already sketched may have its own dangers and difficulties, and the task may be more onerous. But it is rather a matter of proper organisation, with a carefully selected scheme of games, sports and amusements, through which education or development is expected to take place, and with the aid of which the dangers and difficulties mentioned above will be largely avoided, if not escaped altogether.

95. Habits of regular life, concerted action, decent manners, and a proper bearing, with due regard to the sentiments and feelings of others, are never too early to cultivate and impress upon the growing child. Accordingly, the danger of monotony and uniformity in an institutional treatment will be more than counterbalanced by these other considerations. Apart from the general policy and broad principles governing such education, or model, standard equipment and requirements, the State should leave each individual association conducting such an institution free to develop upon its own lines, so that the charge of institutional monotony may not be incurred in any undue proportion; and the mind of the rising generation may not be formed on a uniform pattern.

96. The infant school, orphanage, or creche, will be a peculiar feature of great industrial centres. But these are

not too many in this Province. The orphanage, of course, would, let us hope, be a rare institution in the literal sense of the term. In rural districts, in any case, the sense of social unity is such a living force that we may well depend upon it to make a regular provision for those unfortunate children who have lost their parents at a very early age. In urban areas, this provision will have to be found either on lines of each caste or community making suitable provision in this behalf for the orphaned children of its group or leave it to be made by those associations of social service which are organised on a common basis irrespective of caste or community.

97. It is difficult to calculate the cost of such an institution on a practical basis, much less the burden likely to fall on the public purse if this obligation were accepted as public duty. The funds at the disposal of the provincial Government permit no hope that a public universal obligation would be generally accepted in this behalf. Owners of factories and employers of labour on a large scale in the Province may well be expected to provide some arrangement for pre-school education and care and guidance of the children whose parents are engaged in their work during the normal working day. We would even favour legislation making this compulsory on employers of labour. Every factory, workshop, mine or other industrial or commercial establishment, employing 100 women or more, must provide some institution for the children of its employees. Such an institution must be within the grounds of the factory or workshop, or at such convenient distance as to be easily accessible to the mothers when they come to work or go home to leave or take away their children. The factory-owners need not regard this as an extra burden imposed for the common benefit upon them. It will be a charge for the benefit of their own operatives. The workers, freed from anxiety regarding their children during the period they are at work, will carry on their work more efficiently. The employer is, therefore, likely to gain more in the long run from this increased efficiency than to lose by way of the expenditure involved in the maintenance of such institutions. How far this arrangement will help to solve the problem of pre-school education on a province-wide scale, it is difficult to say. Mine-owners, railway workshops, factory owners, and even Government departments employing large-scale labour, will have to make such a provision for their own operatives. But even taking all of them together, the aggregate in this Province will not amount to more than a very small fraction. For the rest

of the population, social service associations, adequately aided or subsidised, and model Government institutions in suitable areas, will have to serve the turn.

98. Even if the State does not directly undertake the task of providing pre-school education, it must assume at least the obligation to train up suitable teachers for such work. These teachers may work either in the model State institutions, or in such other institutions as are conducted by private enterprise, or social service associations aided or subsidised by the State. In the chapter devoted to teachers in this Report, we have given some consideration to the proper selection and training of this most important requisite for carrying out our proposals; and so need say no more at this stage on that point.



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CHAPTER V.

COMMENCING AGE, LENGTH OF COURSE, AND MEDIUM OF INSTRUCTION IN BASIC SCHOOLS.

99. From what has been said before, it would be evident that regular, systematic, universal schooling of both boys and girls should begin at seven years of age, or six, where the parents so desire. At this age, we may well assume that the physical and mental development of the child is just sufficient to enable the work in school being more and more intelligently carried on by the pupil, under the guidance of suitable teachers, and with the aid of appropriate activities and carefully co-ordinated curricula.

100. The sections of the population, however, which are accustomed to regular schooling, under the present system, at an early age, might desire their children's schooling to commence a little earlier. If they are accustomed to carry on that education to the end of the secondary stage, or even to the university, a year's saving may mean a considerable gain. We must also bear in mind the relatively limited span of life in India. Under present conditions, the average expectation of life at birth is somewhere near 26 years for the country as a whole, and possibly much smaller for this Province. It is, therefore, desirable that the system of regular, compulsory, universal, primary education should commence not later than at seven years complete; but facility may be accorded for such people as desire the schooling of their children to commence earlier, i.e., at 6 years complete, provided the physical and mental development of their children shows sufficient advancement to permit of such facility being accorded without any fear of its being misapplied. समयव नयत

101. The foregoing remarks apply in general to both boys and girls and to all classes. The entire problem of women's education is dealt with separately in a section by itself. But it may be pointed out here that considerable prejudice prevails regarding the education of women; and that there are social customs, usages, and general outlook, which also militate against the universal education of women on an absolute par with that of men. It must be the unrelaxing objective of all those, however, who are bent upon a radical reconstruction of our social system, in the direction of more liberal tendencies

which would assure perfect equality of citizenship irrespective of sex, and, therefore, provide an equal opportunity for self-expression both to men and women. steadily to undermine such reactionary customs, usages, and outlook in life. No respect should be shown for these at the expense of the fundamental equality of citizenship in a democratic State. Our educational system and other social measures must be so designed as to circumvent, undermine, and eventually destroy these re-actionary features of our social system. For the moment, however, the choice lies between the assertion by law, as well as administrative practice, of a theoretical principle permitting of no exception in regard to education of girls on an absolute par with boys, and a consequent failure by tacit popular opposition to nullify such principles; and such modification of the principle, without sacrificing its essence, as would assure a modicum of education for girls as well on a progressively increasing scale, till it becomes universal for them, as it is to be for boys, from the start. The basic legislation must make no difference in principle, and in the matter of the universal obligation assumed by the State in this behalf, as between boys and girls. But administrative arrangements may be so framed as to allow of so much regard to local custom and social prejudice being shown as would ensure girls being brought into schools and to arouse no opposition. These concessions may consist in permission to the girls to commence their education a year earlier than the boys if the parents so desire, so that they may be able to complete it earlier, i.e., before they reach a marriageable age. At the other end of the scale, permission may be granted to parents to withdraw their girls from school after they have reached their 12th year. Compulsion, therefore, may be permissively stopped in regard to girls at the 12th year of age, whereas it must be carried on in regard to boys till the 14th year. If any girls desire to continue their education to the end of the Basic stage, they would, of course, be free to do so without any cost to themselves or their parents or guardians. Every encouragement must also be shown to such of the girls as desire to go on to the secondary stage, or as are deemed competent for it, in order to make up for our heavy deficit in regard to the feminine element in social services. These two concessions, it may well be hoped, would suffice to undermine to a great extent the existing prejudice and defeat popular opposition against the universal education of girls.

102. One common misconception in regard to the education of girls may also be disposed of at this stage. Equal education

for boys and girls does not necessarily mean identical education. Universal and compulsory education for girls is very often confounded with co-education; that is to say, education for boys and girls in an identical course, and in one and the same institution. It is not possible, indeed, for financial, administrative and other reasons, to establish separate schools for boys and girls from the start. As educationists, also, we do not consider it desirable to emphasise too much the distinction between boys and girls, and thereby promote an undue sex-consciousness at too early a stage. Education in common, in one and the same institution for boys and girls, between six and nine or ten years of age, would be generally desirable for social, financial, administrative, as well as educational reasons. Thereafter, when the children have attained a fair measure of physical strength and self-dependence, when distinctive sex characteristics begin to manifest themselves in an increasing degree, and a period of personal crisis or rapid change supervenes, the schooling of boys and girls should be generally conducted in separate institutions, if and where so desired.

103. There is a special argument for intensifying and accelerating the programme of education for girls, both in quality and quantity, which must be particularly stressed at this stage. It is of the utmost importance and necessity that *women teachers* should staff the schools, at least in the years of primary education, say between six and nine or ten years.

104. A seven years' continuous, comprehensive course is necessary for a variety of reasons. In the first place, since one of the central objectives of this system of education is designed to train the citizens of to-morrow to be fit for the civic responsibilities and privileges of a democratic State, we must ensure that their mental development would be such as to be equal to a proper understanding of those duties and rights, privileges and responsibilities in a democratic citizenship. It is, indeed, possible that some degree of literacy, which would of course be included in the syllabus of the schools, may be acquired at an earlier period, and some mastery of some of the accompanying or incidental knowledge such as calculation, history, or geography at an age earlier than 14. But the perception of the full social and civic responsibility comprised in the above phases must await a fuller awakening of the child, a greater growth of its moral and mental faculties, and a larger co-ordination of its daily work with that of those around it, which brings it into greater and greater contact with public

institutions, and with the forces which govern the community. Fourteen is the earliest age period, generally speaking, at which this perception may be expected to dawn in an average normal child.

105. The same must be said, also, of the awakening of the social sense. The need for constant co-operation, and a sense of identity of interest with those around oneself in a well ordered social system, which is reinforced under present conditions by the necessity of a widespread division of labour and specialisation of functions—both in time and space—would not develop till about 14 years of age. We must, therefore, make education, in the sense and manner defined, compulsory at least up to this age.

106. As already stated, this period of primary schooling from 7 to 14 years of age is intended as a minimum of universal education that must be provided for every citizen to be. There would, of course be pupils, who may not be satisfied with this minimum of common education throughout the Province, but would desire to continue their education into a higher stage of specialisation and better acquaintance with the requirements of life. For them the system may make another exception, namely, by allowing those of them who wish to continue their education in a higher or more specialised institution to branch off from the basic primary school at 12 years of age, when the necessary grounding in the arts, sciences and general culture, in the habits of work and outlook on life, would have been acquired to the degree sufficient for commencing the higher stage. But the condition should never be overlooked that this permission of branching off at 12 years of age, or after completing the fifth year, is granted only to those who continue their education into the higher, more specialised school, not only for the remaining period which they would have otherwise to pass in the Basic School in the ordinary manner, but also carry on for a further period needed to complete the secondary stage. We shall offer further remarks in this connection when we deal with the problem of secondary education in the Province.

107. Some kind of a common test will have to be imposed at the end of the 12th year, or 5 years of study, in the Basic School, to discover aptitude or ability in children to permit of this diversion into more specialised institutions. The test we here contemplate will not be anything like the vernacular final examination of today, or any other mass examination of the prevailing kind. It will be a relatively more individual

test, conducted by teachers themselves, usually in association with a group of schools within a given region. We shall deal with this matter of examination or test by itself in another section of the Report.

108. The specialised or continuation classes, which will develop still further the process of education into more definite or vocational branches, will, we consider, not differ in the beginning essentially from the Basic School. In the first two years, at any rate, they will, generally speaking, only continue or emphasise the work being done in the Basic School. General education or cultural development of the pupils would be more attended to than specialised training, though the latter will not be absent or ignored. As the pupil develops further, his occupational or specialised training would receive greater and greater attention; so that, on completion of the secondary stage, he becomes qualified to enter a trade or calling on his own. The difference then between the Basic School final grades and the first two years' grades in the secondary school will be a difference of degree, and not of kind. Their more distinguishing features, curricula, and so on, we shall discuss when we deal with the system of secondary education in another part of the Report.

109. As to how exactly the proportion to be educated in Basic Education will be selected in each succeeding year—whether by categories of age, or by selected districts, or by sexes and classes—may be left to be determined by the administrators of the scheme when finally adopted by Government. For our part we would recommend that, in any case, all children of 7 and 8 years, boys as well as girls, must be made compulsorily to attend school in all districts. And the same may, perhaps, be also tried at the other end. That is to say, boys at least of about 13 and 14 years must similarly be brought for at least one year within the programme, so that even they may receive some part of the basic minimum of education. For this last category the programme of education may have to be moulded differently from the basic minimum; but this is a matter of detail, and we shall leave it to the proper departmental authorities to frame an appropriate intensive course of studies for them. A tentative programme for immediate adoption is outlined in the last chapter of this Report, which we trust will serve as a model or basis for Government to prepare their actual plans for giving effect to our proposals. We admit that this arrangement is not free from criticism, but realising that, at any point a new departure from the accepted order of

things necessarily creates a hiatus, we have tried our best to make such practical recommendations as would best fulfil the required objective.

110. During this period of 7 years' Basic Education, the question of the medium of instruction need not cause us any great difficulty. It is an accepted principle of proper education that all knowledge should be imparted through the medium of the mother-tongue. We endorse it completely, and we would admit of few exceptions. In this Province, luckily, the population is almost entirely homogeneous; and so the question of choosing a common medium of instruction does not cause any very great obstacle. Hindustani will serve for both the Hindus and Mussalmans who make up the bulk of the Province. This language, however, must be written in both the Devanagari and Arabic scripts; and children must be familiarised with both before they complete their basic minimum of education.

111. In teaching languages, undue emphasis should not be laid hereafter on excellence in grammar or expression so much as on the mastery, colloquially considered, of that language, and the ability to express simple ideas clearly and directly through its medium, both in the spoken word and in writing. This is not so much a matter of syllabus, or text-books. It must depend on the teacher in the last instance; and we trust he would prove equal to his task.

112. For important cultural minorities in Bihar, like the Bengalis, provided sufficient numbers are available in any area, arrangements should be made for education to such children through their own mother-tongue in the Basic School. Where the numbers of such minorities are not adequate to admit of a separate school for them, facility should be provided to take such children to the nearest place where such a school can be set up with ease and economy. In the eastern districts of the Province where Bengalis are in considerable numbers, there would be no difficulty in providing schools with Bengali as the medium of instruction.

113. For the rest, a very small figure, arrangements of the kind mentioned above will serve to solve all difficulties, unless such people adopt the language of the Province as their own. This last, we trust, will prove an increasingly acceptable solution of such difficulties, especially in view of our remarks below. All people living in the Province must, however, learn the language of the Province. It should be cultivated colloquially in the fourth or the fifth year of such Basic Schools

as do not use Hindustani as the medium of instruction. We would insist upon it as a cardinal feature of our recommendations that a knowledge of Hindustani must be compulsory on all, whether Bihari born or not, so that everybody learns at least one language; and many may have to acquire two.

114. There is, however, an exception necessary to the general principle we have laid down. In Chota Nagpur and Santal Parganas, where the aboriginal tribes constitute a large proportion of the population, Hindustani is not the mother-tongue of those people. The Mundas, the Oraons, the Santals all use one or the other of their own dialects, which, in the present state of local sentiment, they would like to exalt as independent languages. We have no desire to slight any of these speeches. But we are afraid that these languages are not sufficiently developed to serve as the media of instruction throughout the whole course of Basic Schools. We, therefore, recommend that in the first year, in any case, all oral teaching should be given through the mother-tongue of the pupils; and that even in the later stages of the school course, it should be permissible for teachers to give oral explanations in the mother-tongue of the child wherever feasible, and children's books may be made available in these languages. Subject to these remarks, Hindustani should be used as the medium of instruction.

115. By Hindustani is meant the language which is employed in ordinary intercourse and conversation in Northern India and is the common basis of Hindi and Urdu. We suggest that the machinery provided by the Hindustani Committee for compiling a standard vocabulary on the basis of common usage as well as the appropriate books for study be accepted.

CHAPTER VI.

DIFFERENTIATION BETWEEN URBAN AND RURAL, AND BOYS' AND GIRLS' SCHOOLS.

116. The scheme of education outlined by us involves no fundamental differentiation between urban and rural schools. The main principle of purposeful activity, in place of passive receptivity which has characterised our educational system hitherto, will be common to both urban and rural schools. To that extent the change of method, form, and content will apply equally to both. It is true, however, that there are differences in the surroundings, circumstances, and experiences accessible to the child in town, which may not be available to its brethren in the country. So far as there are these differences, the scheme of activities may differ as between the rural and urban schools in the matter of details.

117. In Bihar, however, even these differences are not very considerable. For the Province is not industrialised to such an extent that a marked differentiation may exist in the life, habits, and requirements in town and in country. Hence, in this Province, at least for the time being, the basic activities of the school, whether in the town or in the country, will not differ very materially from one another. Differences of detail would, however, manifest themselves in the activities selected to be the media of education. A greater emphasis, for example, on shop-keeping services may be laid in towns, as against village sanitation or animal husbandry and its use to mankind, or the occupations—principal and subsidiary—connected with agriculture, which would be more emphasised in the country. Artisanship, or work on a small scale in one's own home, with simple tools and easily accessible materials, will, however, for a long time to come, be common in both areas, though the distinction between the principal and subsidiary craft in the higher standards may vary as between town and country.

118. In both cases, there will be a comprehensive correlated syllabus, which will start from simple activities and rise from standard to standard into a growing complexity of organisation, operations, planned programme of work, and, systematic adjustment of means and end, which, in its aggregate, will amply suffice to provide the basic minimum of education we postulate as the fundamental of the new system.

Because there is no fundamental difference in the main principle, method, or objective of education as between town and country, there will be no very great difficulty as regards transfers, or movements, should occasion arise, of pupils from a rural to an urban school, or *vice versa*.

119. It must also be noted that, comprehensive as the scheme is, it is not intended to provide for a static society. In itself it must be so organised, so elastic, so easily adjustable to changing environment and conditions, that it must cause no obstruction to the dynamics of social life, to the urge for progress, and to the consequent change that may be effected in the environment and the circumstances of the people, with reference to whom the basic activities are selected and worked in the schools.

120. Although there is no basic fundamental difference in the schools, in the town or in the country, the time-table must be so arranged as to accommodate itself to the needs, circumstances, and the local conditions of each unit. This may mean considerable difference as between town and country schools; but it will be of a superficial character only. Speaking generally, the time-table must be so arranged as to involve the least possible interference with the demands of the actual life of the people amongst whom a given school is working, provided the over-riding needs and objectives of the entire educational system are not affected. Subject to that condition, every possible accommodation should be shown to the convenience of the child, its parents, and the community at large, the nature and seasons of their work, the periods of their festival, the demands of climate, etc., in framing the time-table, in prescribing working hours, and even adjusting the school year, its casual holidays, or longer vacations.

121. The normal working school year should ordinarily be of 250 days, with a variation of 5 per cent. at either end. Given the exigencies of our climate and weather conditions, these 250 days will have to be so spread over the entire year, as to give maximum accommodation to the requirements of different conditions in the different areas in which schools may be instituted. Allowing a weekly holiday throughout the year, and reckoning on an average about 20 public holidays in the course of the year, as also another total of 30 days by way of vacations, the standard academic year of 250 days is not too short or too long for the task in hand. Compulsory attendance, however, may be expected in the schools for a larger proportion of this period of 250 days. For the adequate working of the

school, a time-table of five or six hours at most per day may also be recommended as desirable.

122. Let us in this place also dispose of the general question as regards the differentiation in education between boys and girls. As already remarked, education of women is one of the biggest problems which face India today. Apart from the question of the rights and interests of women as citizens in a democratic State, there is the social consideration of overriding importance. Only when we have educated mothers can we hope to have a proper education of the rising generation. Besides, the extremely needed social services of teachers, doctors, nurses, or social works in general, can be staffed satisfactorily only by women. Finally, the very march of civilisation is conditioned by the degree to which the women of a community are educated. It is the woman who really civilises man. She must, therefore, receive at least as good an education as men.

123. The Committee do not see any grounds on principle why there should be any differentiation in the courses, or curricula, or the general methods of educating boys and girls up to the basic minimum regarded as necessary for a proper, efficient discharge of civic responsibilities in a democratic country. The Committee, however, cannot shut their eyes to the existing social prejudices and custom. Nor can they ignore the actual conditions regarding the usual division of work as between men and women in adult life. The Indian social system does not, speaking generally, contemplate the problem of a productive economic career for unmarried women, which seems to be increasing and becoming acute in western civilised countries. But even in India, particularly as regards the Hindu community, there is a very considerable problem of the life-long widow. The economic position of the Hindu widow is far from enviable. Having neither property of her own as a rule, nor any outdoor occupation of a productive character, the problem of her useful employment, so as to make her economically independent, and at the same time able to render her quota of social service to the community, is no less intense in Bihar than in any other province. Adequate education and training of women is, therefore, the *sine qua non* of any attempt at a successful solution of this problem; and a certain degree of differentiation unavoidable as well as necessary in the education of men and women at least for the present.

124. The occupations that women can follow, or have in fact followed, in India as well as in other civilised countries, may be listed in the order of their importance from the point of view of the numbers employed therein as follows :—

125. *Care of the Home*.—This is the most ancient, traditional considerable occupation for women in all countries. Even under the present industrial civilisation, that occupation is not destroyed. It includes motherhood, and house-keeping, comprising cooking, waiting and general looking after the home, its comfort, integrity, and utility. This is a composite occupation which may be split up, on a professional basis, into such divisions as that of cooks, house-keepers, waitresses, etc. But because it is the usual, if not universal, occupation for women, it does not follow that they need no training or proper education for an efficient discharge of their duties in that walk of life. Girls' schools, especially in the later years, or special courses of studies for girls in common schools, may show greater emphasis to the activities of domestic utility. These may be arranged to rise from year to year, from standard to standard, in an increasing order of complexity and co-ordination. If, to the home, we add the garden and the occupations connected with it, e.g., horticulture, making of flower ornaments, or preparation of pickles or preserves, the chances of an economic as well as efficient and satisfactory home-life would be enormously increased. This is not always a matter of money, nor are these forms of luxury. These are arts and graces, which could come well within the means of every woman, if only she is properly trained for the job.

126. *Mother craft*.—Special training in mother craft now-a-days attracts everywhere considerable attention. The care of babies, looking after the home, domestic science in general, is attaining to the dignity of a specialised course almost of a university standard. In Basic Schools paying special attention to these courses, or catering for women more than for men, they will have to be organised on such lines that, at the end of the full period of such Basic Education, those trained therein will be competent to carry on such occupations efficiently.

127. *Care of Health*.—Next after the care of the home comes the care of health, as an occupation specially attractive to women, and practised by them from time immemorial. Women versed in the knowledge of herbs and plants, and simple household medicine, are even now the blessing of almost every

village, and for no mean proportion of town-dwellers as well. Skill in first-aid as well as in midwifery has also been found in all countries amongst women. Their knowledge and practice may not be scientific according to the most approved lines. Yet they have attained such a measure of success, they are so easily accessible, and so inexpensive in their advice and suggestions, that it would be difficult to replace them by a professionally trained physician or midwife. This is not to say that women should be debarred from a professional career as scientifically trained doctors, midwives, or nurses. In the Basic School catering particularly for women, a greater bias should, accordingly, be shown to a study of first-aid, the general care of common ailments, their diagnosis, treatment and cure, health, and personal as well as social hygiene, as likely to be useful to women in their common occupation. Such of them as show special skill or aptitude in this regard may then be selected for a closer and more specialised study leading to adequate professional qualification for the same.

128. *Teaching.*—In the third group may be included the craft of teaching, which in the West is being almost monopolised by women, particularly in the infant school and the lower classes of the primary school. By their native sympathy and intuitive understanding of children, by their sweetness and gentleness, women are invaluable as teachers, particularly in the earlier years. The authors of the Report on Vocational Education in India (Abbott and Wood), recognise the possession of these qualities by Indian women, and emphasise the necessity of having women teachers in India, particularly because of the social custom and prejudice prevailing in this behalf, which impedes the education of girls on any very large scale if schools are staffed by men teachers. In India, however, there are comparatively fewer women teachers than in the West; but they would be particularly useful because a large section of the community regards the education of its girls by male teachers as undesirable. It, therefore, becomes doubly necessary for India to organise a system of education, which encourages among women the profession of teaching.

129. *Tailoring, etc.*—Connected with the preceding, and of use within the home, may be listed the allied occupation of tailoring, dress-making, designing, decorating, and the like. The use of the thread and the needle, the making or preparation of clothing for the dolls, the domestic requirements in regard to sewing even in the ordinary home, all make a group

of connected activities which are particularly suitable for women in this branch. Artistic embroidery, knitting and crochet-work, may also be, as they in fact prove even today, of considerable service for supplementing their domestic budget. It would be well to introduce such activities in the later years of the Basic School.

130. *Arts.*—Artistic occupations, next, at least in given categories, have always had a special appeal for women. They are our custodians of the beautiful and the spiritual. Singing, dancing and music have almost and everywhere been special preserves for women. These are the arts of life, which make life more pleasant, its burdens more bearable, its joys refined, and its sorrows lessened. Regular courses of special practice and training in these arts may be instituted for those who desire to avail themselves of these courses, so as to make these arts better appreciated. Though singing, dancing or acting may be more difficult to acquire in their higher stage, they cannot be cultivated too early even in the primary stage of public education. We may add that we would not confine these arts exclusively to schools reserved for girls. We recognise, however, that there are important sections of the community that look with disfavour on music and dancing; and so we recommend that there should be no compulsion in this matter.

131. *Designing and decorating.*—In the same category may be included occupations for artistic designers or decorators, which also are becoming of increasing importance. Even in the extreme poverty of the average Indian home, there is room for these symbols of a leisured life. When the prospects of an all-round social and economic reconstruction in the Province are realised to an appreciable degree, these arts will have their importance. And in these, women have a special advantage, both because of their greater opportunity at home, and because also of their greater attachment to it. The art of making the home beautiful as well as comfortable, distinguished and attractive as well as orderly and economical, must, accordingly, find a special place in girls' schools, or in courses particularly favoured by women.

132. *Literature.*—Writers of imaginative literature of an artistic kind have also been drawn from the ranks of women, and in increasing numbers in recent years. Journalism also claims women votaries in increasing numbers, at least in the West. We must accordingly provide education and training for women in powers of self-expression through the written word.

133. It is obvious that all schools cannot have all possible crafts, or activities suitable for this purpose for men, or for women. Schools must, therefore, specialise more or less in accordance with local conditions and circumstances, and according to whether a larger proportion of the pupils consists of boys or of girls. In later standards, as a matter of actual practice, and for many years to come, we must provide separate girls' schools, if the education of women is to be specially encouraged and intensified. The activities connected with the various occupations suitable for women cannot, of course, all be provided for in any one school. We will have to leave it to the requirements of the locality to see how far the elementary schools could be specialised in accordance with the demand for practical training in particular branches, at least in the later years of the normal course of Basic Education. It is a matter of organisation—a suitable distribution of such schools in each district or thana, so as not only to educate the largest number of girls, but also to make the widest possible provision for the special requirements of women's education. A standard strength of at least 100 pupils in each such school in the later years would minimise the financial and administrative difficulties; and, if properly distributed in the Province, would meet the greatest need most efficiently.

134. We may assume, as the facts of our present social organisation indicate, that a large proportion of women will naturally take to the duties and responsibilities connected with the home. This would mean education through activities connected with domestic science and household economy, which, as we understand the term, include looking after the home, with some regard to making it both comfortable and beautiful, and care of children. Cooking and all the attendant services, sewing, including the more decorative parts such as embroidery and fancy knitting, may also be included in what may be called home-craft collectively, and may be emphasised especially in schools reserved for girls.

135. On the other hand, the responsibility for maintaining the home, and providing the food, clothing and shelter for its inmates, will devolve, in consequence of the natural division of functions, upon men. The training of boys must, accordingly, follow lines which will fit them for this task. Because of this, it may be necessary to introduce a measure of differentiation in the two classes of schools, not grounded initially and intentionally on lines of sex, but in accordance with the greater emphasis on the several occupations or branches of practical training laid in particular schools.

136. As a cardinal principle of this organisation, it may be emphasised that neither sex should be positively debarred from the benefit of training and education provided for the other sex. Facilities should be made available for men to acquire the arts of home-life, just as much as for women to acquire training that would fit them for earning their livelihood, or maintaining their home in case of emergency, or rendering their contribution of social service away from home. There must be nothing, in fact, to stereotype, and make a permanent, insurmountable, division on lines of sex, intensified by the exclusive education given to the two sexes separately. In practice, however, a larger proportion of courses or branches of activity suitable for women will be maintained in schools for girls.

137. That is why, again, we have permitted a certain amount of differentiation in the period of compulsory education. The differentiation, however, will begin, even where permitted, after the fifth year of the universal common education, in the Basic School. Thereafter, if a majority of the people desire to withdraw their girls from common schools, they must not be deprived of all chance of further education whatsoever. Separate schools for them thus become necessary, at least for the last three years of the basic minimum of universal education. The courses of study in the common programme or earlier years must, therefore, be so framed as not to reserve exclusively one or the other set of subjects to one or the other sex. But emphasis on different subjects may be so laid that, in cases of boys' schools, for example, a given activity may be developed with a view to practical utility in later life, which, in the girls' schools, may be cultivated more or less from an artistic standpoint. The subject of drawing, for example, may be cultivated in the case of boys with a view to including planning or draughtsmanship, which may later on be of use to them as engineers, architects or painters, while, with regard to girls, the same activity may be utilised for cultivating the skill in designing or painting.

138. Our programme of compulsory Basic Education is to be given effect to progressively over a period of ten years. This, we realise, may meet with grave obstacles, not only because of the existing prejudice and social customs so far as girls are concerned; but also because of the lack of the necessary agency for carrying out the programme. We are extremely lacking in women teachers; and, despite every intensive effort that we can make to make good this lack, it would require years before this heavy deficit can be made up.

On the other hand, we cannot disguise from ourselves the fact, that, in the present state of public opinion, if education is at all to spread amongst women, we cannot do without women teachers and separate schools, at least in the latter years of Basic Education. We would, accordingly, recommend that the principle of compulsory education should be relaxed, so far as girls are concerned, for the time being, in such a manner that the programme of having every girl of school-going age enrolled to the full limit of Basic Education may be achieved in **twenty** years from the commencement of the programme in place of **ten** years assigned for the same purpose in the case of boys. This would permit, on the one hand, of the conscience of the community being gradually educated into a proper appreciation of the need to have women educated on a par with men, and, on the other, of the efforts of the authorities concerned to make good the deficit of women teachers and school buildings needed to carry out the principle. We have admitted this indirect exception to the ideal set before ourselves, it will be realised, not because we desire to tone down the principle governing our recommendations in any way, but simply because we recognise the inescapable logic of facts, and desire to guard against our recommendations being ignored on the ground of our having overlooked altogether practical difficulties.

139. Subject to the foregoing observations, our programme contemplates co-education for boys and girls up to the age of ten. Where, however, separate schools for girls are already in existence, or where separate schools have to be established, permission may be granted to girls of lower grades being admitted to these separate schools. Permission may thereafter be given, as already observed, for educating girls for the next two years, wherever compulsion is enforced in their case, in schools reserved for them. In such separate schools for girls, it would, of course, be desirable to have women teachers exclusively, just as we could wish the lower grades in the Basic School and the pre-school institutions to be staffed mainly by women both for boys and for girls. As the principle of compulsory education is not to be applied to girls over 12 years of age, we trust that, given separate schools for girls staffed with women teachers, an ever increasing number of girls will be forthcoming to complete at least their basic minimum of education, especially as it will be provided free of cost.

140. We have already noted the extreme difficulty of finding women teachers in the required number. Even if we

intensify our programme of training women to take charge of infant classes and earlier standards in the primary schools, it would be years before we would have women in sufficient numbers to take full charge of the whole of the work in this division. Pending that development, we would have to face the fact that the bulk of the teaching work in all schools, whether common or exclusive, will have to be done by men teachers.

141. As a matter of policy, we would recommend that in women's schools, as well as in the lower classes, where women are still not to be found in requisite numbers, the men teachers who do this work should be the more senior members of the profession, whose age, experience and status will guard them against possible misapprehension in the public mind due to their presence in women's schools. In general, also, we would desire that in the lower stages, the more senior and experienced teachers should be in charge. To this extent our present notions of recruiting and appointing personnel for schools will have to be radically altered. We would rather advise that such schools be staffed by senior, more experienced and thoroughly reliable men teachers, pending the training up of the necessary women teachers, than risk the possibility of the prevailing social prejudice against the higher education of girls under such circumstances leading to a wholesale withdrawal of girls, before they have completed at least the minimum of education which we regard as an indispensable pre-requisite of full democratic citizenship.

142. As regards the practical difficulties to give effect to the programme of providing the requisite number of women teachers in a given period, the Committee fully appreciate both financial and other difficulties. We should have to spend heavily, and at an increasing rate, in order to establish training centres in sufficient numbers to train women teachers at least to the degree requisite to serve efficiently in the infant schools and in the earlier classes of the primary schools. In establishing and maintaining such centres, we shall have to face heavy financial outlay, both recurring and non-recurring, apart from the difficulty of staffing them with the women available for that purpose. There is an extreme scarcity of even properly qualified men teachers for these training centres.

143. After a review of all these difficulties, the Committee have come to the conclusion that, within a period of ten years, all boys, and within a period of 20 years from the inception

of the scheme, all girls of school-going age (7—14 years) should be brought compulsorily in the Basic School. The boys must remain under such training up to 14 years, while girls must do so up to at least 12 years of age. The difficulties of finding a sufficient number of girls of the ages between 10 and 14 or even 12 and 14, in each village, so as to provide enough work for a fully equipped and organised school for them may be obviated in a variety of ways, e.g., such as combining several neighbouring villages to maintain between them a school of the advanced kind for the compulsory primary stage of education, devoting such advanced schools to particular occupations according as they are for men or for women, and according to the available facilities of staff, equipment, accessories, etc. Alternatively, one and the same school may also be made to serve a similar function, by differentiating the time-table as between several activities, one part of the day being reserved for boys' activities and another for girls'. Other devices may also be discovered to overcome this difficulty, so that the programme we have envisaged may be carried out in the time-limit we have suggested for boys and for girls.



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CHAPTER VII.

EXAMINATIONS.

144. The one feature of the existing system of public education, which has aroused the greatest amount of criticism, is the occurrence of a number of examinations from time to time. They dominate the entire organisation and provision of education, obsess the pupils' mind to the exclusion of every thing else as possible to attain by education, and distort the standards of judgment or valuation of individuals undergoing such examinations, as regards their own selves, and as regards the world around them.

145. They are, besides, not reliable tests of individual proficiency. They discourage thinking and tend to emphasise mechanical memory. They are undependable, unreal, and misleading; their working being usually capricious and subjective. They are too frequent, and tend to become an obsession with students, with the result that a love of general reading is smothered, and the joy of learning for its own sake never realised. Even within their limited scope, they offer no help in a rational review of the objectives of the curriculum or the efficiency of teaching. They are almost entirely useless in evaluating the personality of the person examined, nor make allowance for any specific or passing handicaps, the candidate or the examiner himself may be suffering from, at the time of examining.

146. We have given the above criticism of the prevalent examination system in order to bring out the problem as a whole. But it is obvious that it would be necessary to institute some type of examination in order to assess the efficiency of our schools, and their teaching. At the stage of Basic Education, with which we are concerned, the problem of examination, though very extensive, is comparatively simpler, since we are not testing children with reference to any extraneous standard like entrance into certain services. We, therefore, think that the following procedure would meet our requirements so far as the Basic Schools are concerned.

147. The annual examination of children at school should be conducted by the teachers of the school who should also maintain a regular and complete record of the actual work done and progress made by each student. Normally, all children should be promoted from one grade to another, exceptions being made only in cases of mental backwardness or

inability to cover the minimum ground necessary for the work of the class. In order that the test may cease to become the obsession that it is today, and that it may cease to inflict the loss in spirit, energy or enthusiasm which it inflicts today upon failures, it may be well to provide that mere failure to pass a given stage will not necessarily constitute an unanswerable reason for detention in one and the same class. It is fundamentally a wrong way of looking at the work to be done in the school, especially under our changed objectives, if a pupil is detained, year after year, in one and the same class, simply because he fails to pass a given test. In a compulsory system of education, such as we have envisaged above, there should be no room for such detention.

148. In order, however, to ensure the efficiency of school work, inspectors, properly trained in the technique of testing, should, in the course of their inspection, find out, by means of sample tests, whether the children have been taught with reasonable success, and whether the teachers' examination has been fairly conducted. The inspector's test will, therefore, primarily be a test, not of the pupils', but of their teachers' work. It will be necessary for the purpose to get a staff of specially trained men at the headquarters who will prepare these tests, and train the inspecting officers in the technique of administering them. We recommend that a few promising educational officials be deputed to England and America to study the technique of testing and preparing test materials, which will help them to assess the suitability of the methods as well as the curricula.

149. At the end of class V, there should be a comprehensive, pre-vocational, and intelligence test, conducted by the inspector, in co-operation with the school staff and experts of the department, with the object of testing students for secondary schools, and giving vocational guidance and advice to the parents about their children. They will also advise the local boards or the Provincial Government in the matter of awarding scholarships to talented and deserving students who are to go to secondary institutions. In this test the progress record of the students, and the teachers' personal observations and impression of the pupils, should be given due weight, so that one test alone may not be used as adequate criterion for deciding this important point.

150. We do not think it is necessary to institute a formal public examination at the end of the 7th or final year in the

Basic School. The pupil who satisfactorily completes his seven years' schooling should be given a certificate to that effect, which should also indicate the quality of the work done by him, and the general opinion of the staff about his character and capacity. This certificate should in itself not entitle the holder to any public employment without an adequate test or interview specifically held for the purpose; it should only enable him to appear for such test or interview. It should also entitle him to join class III of the secondary school, which will, however, be entitled to hold its own test in order to judge the suitability of the candidate, and to regulate the quality of admission.

151. We would, then, need such a test for recruiting for our public services of all professional kinds, especially if we want to escape any charge of undue political influence or wire-pulling in the personnel of public administration. But these tests must be conducted with a wholly different method, in a wholly different atmosphere. Those conducting the test must never lose sight of the fact that what they have to test is the total personality of the individual, and not his level of attainment in any given subject alone. Secondly, they must make due allowance for the momentary handicap from which any person may be suffering. Thirdly, they must immunise themselves against similar handicaps affecting themselves, so that the personal equation which now-a-days vitiates considerably the work of examiners themselves may be avoided.

152. Every such public test under the system, we recommend, will, therefore, take into account, not only the sample result of any given individual in a group, so far as the activities conducted in that group at this stage may be concerned, but also the entire record throughout the preceding period of the individual concerned, and the impression formed on that work by his teachers. In fact, if we may speak in terms of percentage, if 25 or 30 per cent value is allowed to the accuracy or otherwise of given answers to given questions, the remainder 70 per cent should be equally divided between adequate appreciation of the record of work done during the period of study or training, and the impression formed of this work, as also of the individual doing it, by those concerned with guiding and helping him during the period of his work. In order that this test may not be too frequent, and that such a test may really be objective and individual as far as possible, the testing authority must collaborate with the teaching authorities and with those concerned with management of schools, and secure

such aid from the Public Health Department as may insure against miscarriage of justice, because of temporary ailment or passing disease.

153. The test, if it is to be really operative for cultural as well as utilitarian purposes should be by groups as well as by individuals. For a real appreciation of any given unit, a separate individual test may be desired. But even if that is not practicable for each individual, we must institute tests by groups. This means that, for given classes in the same school or groups of schools, the attainment of the whole group co-operatively working together may be tested, not merely by freak questions of the moment asked at random, without any correlation to the real work done during the period of preparation, but by means of a review of the whole work all over the period of preparation.



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CHAPTER VIII.

HEALTH AND WELFARE OF PUPILS.

154. Education, in the sense we have defined it, does not consist merely in helping to develop a certain degree of mental faculty. We lay equal stress on the development of bodily powers and capacity. It involves very considerable attention and emphasis on the rôle of the school to cultivate the physical fitness, health, and general well-being of the school-going population. The inclusion of some form of physical training is now-a-days a common feature in most countries in the primary as well as higher schools. But, as a rule, this gives grudging admission, which does not rise to the dignity of a principal objective aimed at in the system of national education. Our recommendations are, therefore, designed as much to reorient policy in this aspect of education, as in regard to the better, truer, fuller development of mental faculties, a greater scope for self-expression, self-realisation, and self-fulfilment.

155. The period of a person's growth from babyhood to childhood is of the utmost importance in the formation of certain habits of personal cleanliness and of healthy living, which are, at the present time, all but ignored. The teacher makes these habits, formed at home anyhow, more conscious and deliberate, with a fuller understanding of the cause and effect, than is the case in the average home. The teacher will, for instance, be expected, to have a daily inspection of the pupils' physique, especially where there is the slightest danger of disease. Postures and movements, again, which might result in malformation or inefficient functioning, if not corrected at the proper time, should be avoided by early attention to these apparently unimportant details. Teeth, eyes, nails, ears, a proper mode of sitting or walking, a correct way of breathing, should all be attended to, as part of education in the first year. To attend to these possible foci of likely diseases, to guard against the sources of common ailments, to help the child to acquire correct habits for a proper care of its health and physical fitness, would avoid a number of diseases which arise simply because of inattention and neglect during these early years.

156. Education in personal hygiene or cleanliness must, therefore, commence in the very first year. Daily attention to these will be expected in all schools. The higher the class, the less will be the necessity to attend to these in a minute manner. But it will do harm if precautions against a possible bad habit are not maintained throughout the scholastic period. Attention to these would be facilitated, if it is made part of the regular daily routine of the school by weaving them into certain activities which begin with the person of the pupil concerned. These are bound to interest the child very much, because they are part and parcel of its being; make it understand not only its own body and its mastery; but also grasp the social necessity and importance of each individual keeping personally fit, clean, and healthful. They will thus be an integral part of the regular system of education, based upon and centring round purposeful activities which form the essence of our recommendations.

157. Next comes the regular exercise of the limbs and organs with a proper correlation, wherever possible, of their place in the bodily system, and with an adequate understanding of the necessity as well as the consequences of such exercise. Physical exercise or training must not only form an integral part of the system of education, but it must be woven so closely with its entire fabric throughout the period of compulsory universal education, that, later on, in life, there can be no escape from it.

158. In connection with systematic exercises, we do not recommend the introduction of any costly system of gymnastics, requiring expensive imported instruments. Our indigenous methods of training the body in childhood and youth, and keeping it fit in manhood, are sufficiently varied, numerous, and effective, to provide an adequate course of gymnastics for all educative purposes throughout the school period. Exercises will have to be adapted, no doubt, to the varying bodily peculiarities of different pupils, and their different years of age. We would recommend that a regular course of bodily exercises, starting from simple movements and ordinary drill, going on to more and more complex and interwoven exercises, including correct breathing or *pranayam*, proper walking or standing, sitting at ease or at work, should be framed, and regularly enforced in every school, according to the capacity of the children concerned. Those who are physically defective or handicapped may need special treatment. But, luckily, their number will be small, and so we need not consider their case as of special importance.

159. Games and sports, which tend to develop the body and its muscles, and render healthy the functioning of these various organs should also be made a regular feature of the educative programme. Here, also, however, we would repeat the warning that it is not necessary for an adequate programme of games and sports to be cultivated during the school years, to have costly imported equipment for conducting games and sports appropriate to the Basic School. Indigenous games and sports are not lacking in body-building value, in training for concerted action or habits of teamwork, and in bringing about a closer acquaintance with the collaborative society in which we have to live.

160. At this stage, we may mention one very severe handicap that affects the whole of India, and particularly this Province. We refer to the intense poverty of the people, which causes under-nourishment and, therefore, is responsible for ill-formed or rickety bodies, with insufficient native strength and tenacity to start with. This is a grave question affecting the entire system of our national and provincial economy, but we fear this is not the place where we could well discuss that problem. In so far as this is a common affliction of the whole country, it is, of course, impossible to remedy it, particularly by anything that a single province may do as regards its programme of education. If and when it is to be removed, it will be removed as part of a comprehensive programme of economic reconstruction and provincial development, which must assure a better material standard of living than is the case today. In fact, if we insist, as we do, upon a regular attention to the full and proper development of the body, there would be a greater demand for proper nourishment. Under existing conditions, however, we may not be able to supply it in the required quantity and quality. Real education on these lines may, therefore, create a sense of discontent with the social system. Because of this possibility we cannot, however, give up our ideal of proper education of the people of this country. Besides, we are aware that it is not impossible to remove this initial handicap of our social system. Let us hope, that by the time that our recommendations are being put into effect to their maximum degree, a corresponding change would also have taken place in the means of livelihood for the Province considered collectively, so far, at any rate, as to minimise this handicap. And, meanwhile, we would desire that the system of bodily exercises and physical training in schools should not be worked anywhere in such a manner as to invite invidious attention to this aspect of our economic life.

161. Medical inspection of healthy growing children must be a regular feature of our educational system. Every child should, we think, be medically inspected before or soon after it is put to school. There are many diseases which are carried from person to person by simple contagion. Others are infectious from the use of common drinking glass, face-cloth, and the like. We would utter a note of warning that, even at this stage, it is not too early to take precautions against possible contamination or pollution by means of personal contact, or indiscriminate handling of articles of common use by pupils in a class-room. A great deal of what now appears to be malformity, common infirmity, or disease, such as of the eye or of the teeth, will, however, be avoided, we trust, by proper attention to cleanliness among the children and habits of personal hygiene, which the teacher must regard as among his most important duties to attend to. The teacher whose class or school looks ill-kept, whose pupils appear unkempt, untidy, ill-behaved, must be made to feel the censure of his superiors much more heavily than one whose pupils show poor literary results.

162. Medical inspection must, however, not be rendered a mere routine, carried out perfunctorily. It must be the means of reliable information and even instruction to the parents, guardians, or teachers that a child suffers from an avoidable defect, or needs particular attention to specified items so as to avoid future danger. Medical treatment in times of sickness and epidemic, or for particular bodily handicaps, must be provided free as a public service, in order that much of this danger be remedied. We may add that it is a truism of medical science, more valid today than at any time in the past, that prevention is better than cure. Accordingly, a full and proper explanation to the pupils about the place and importance of habits of personal cleanliness, and common precautions against the spread of infection or contagion of particular diseases, may go a long way, not only in making the ordinary class-room healthier and a more enjoyable place than is the case today, but also in promoting the general health and well-being of the school children.

163. In carrying out these duties, the most important single person concerned would be the teacher. The Education Code must, accordingly, emphasise this responsibility of the teacher categorically. Whenever the school is inspected officially or unofficially by the regular inspector or any public man,

these features or requirements of school-life and the appearance of the school children must be insisted upon as amongst the foremost points for inspection and report.

164. It would help materially in economising the cost of medical inspection in schools, if the teacher, in the course of his professional training, is himself instructed in the elements of the science of health and medicine ordinarily needed in childhood. One of the commonest criticisms against the system of medical inspection, as it takes place today in our schools and colleges, is that it is a very perfunctory affair, and provides no material help towards a better understanding of childhood's ailments. Much less does it offer any satisfactory means to cure those ailments,—unless the parties concerned can afford to pay for them. But the immense poverty of the mass of our people, and their consequent inability to provide the food and treatment that modern physicians generally prescribe, only make the spectre of poverty more gruesome than it otherwise would be. We, accordingly, consider that a properly trained teacher would be of immense service in such a task.

165. Medical treatment, whenever necessary, will first take the shape of a report from the medical officer inspecting the schools to the parents or guardians or other authorities interested in the school, as regards the defects, if any, or symptoms noticed in any given child. These defects are, as a rule, easily curable, if only proper treatment is applied in time. And this can be achieved without any imported and expensive foreign drugs or medicines. A proper understanding of innumerable indigenous drugs or processes, which are within the means of every villager, would be quite ample for the common complaints. The question is rather that of a proper knowledge, understanding, and exploitation of available indigenous resources of our own, in regard to medical plants and herbs, and their use against the common ailments of child life, than elaborate scientific medical paraphernalia, replete with the latest discoveries, and embellished with the latest appliances. We are living in an age of universal softness. The ideal of Spartan life is as much unwelcome for the child as it is abhorred by the adult. A life of hardy manhood, simple yet dignified, is admired—from a distance only. We do not desire to give any appearance of harshness, or unfeeling indifference to our rising generation in designing a new system for their education. But we would, also, not welcome any suggestion which, in our judgment, tends to coddle and pamper,

and render unduly soft, boys and girls, from their earliest years. Hence our aversion to those costly appurtenances of physical training and personal hygiene, which constitute a flourishing large-scale industry, whose products make an important feature of international trade. We would rather recommend that in every *thana*, there must be some place where the simple remedies of indigenous medical practice be duly cultivated, and the teachers be specially trained in the same. For the rest, we would desire that the school should insist upon a life of true virility, which the nerve-racking civilisation of today would otherwise shatter in its very commencement.

166. We have already spoken of the intense poverty of the average Indian home, particularly in the village, which is more than ever noticeable in this Province. Given this handicap, the ordinary nourishment of the average child must necessarily be defective. The question will, therefore, have to be faced, by local authorities particularly, as to how far this lack in nourishment can be made good in schools. In larger towns and richer countries, they provide one meal at least at public expense in the school to every child; or, failing that, they at least provide milk in the afternoon to the growing children. It is impossible for us to say how far the resources of this Province would meet this desideratum, at least in the initial years. But we cannot help adding that, in the general plan of provincial development, attention must be paid to the advisability of remedying this defect.

167. The common handicaps of school-life in this country are sometimes ascribed to the insanitary surroundings of an average village-school, to the unhygienic habits of the pupils, and to the unscientific construction of the school-building itself, its equipment, and accessories of education. Insanitary conditions in the normal village life, and unhygienic habits of its people, are, to a large extent, matters which a proper education would automatically remedy; and so we offer no observations on these points beyond what we have already remarked. As regards school-buildings, given the poverty of our Province, it may seem an impossible luxury if we were to insist that all school-buildings of even the primary stage must be built on a standard pattern, with not only adequate air and light, but also with properly constructed furniture, and all the accessories and appliances of education deemed necessary in the richer countries of the West. We have made some suggestions in the miscellaneous chapter as regards the construction and maintenance of school-buildings. We

may add, however, in this place only one remark. The building of suitable school structures, and furnishing them with the necessary and adequate furniture, equipment, and accessories, is not so absolutely beyond the means of the Province as may appear at first sight. If once the initial handicap of insufficient production and unequal distribution of wealth is remedied, we feel the resultant increase in the efficiency of the pupils, and in the improvement in their work in the schools will more than repay the outlay made on these buildings, their equipment, etc.

168. For the proper care of the health and physical well-being of the children, co-ordination is essential between school authorities and those concerned with the public health of the country. It is only where such co-ordination is established, that action may be taken immediately and effectively upon reports from the school-master or medical inspector, within a given area, for prompt treatment of such cases as may be notified to the Public Health Department, in order to minimise the incidence of defect or disease, and to maximise the standard of health among school children.

169. Another question which we may discuss in this connection is that in regard to the appearance and manners of school children. The former includes such items as their personal cleanliness, their clothing and foot-wear; the latter, their general behaviour, manners and deportment. Mere didactic teaching in this regard, laying down certain maxims of behaviour, or thundering against particular habits, will not suffice, if suitable example is not available always before the pupil's eye. Here also we do not desire that manners, behaviour and deportment should be interpreted as a conduct in life more becoming slaves than free citizens in a democratic State. We would not wish that obsequiousness be mistaken for true humility; diffidence for genuine modesty; self-effacement for a real deference to the opinion or example of the truly good, great and deserving of reverence. But, at the same time, we would not want the teacher or the pupil to confound honest self-confidence for mere assertiveness; self-respect with vanity; independence for arrogance, desire for self-expression for conceit or vaingloriousness. Attention to details of dress and manners is not insisted upon to encourage foppishness in boys, or dollishness in girls; but simply because it makes for more self-reliant citizenship. We realise that it is one of the hardest things to teach, impart, convey. To a great extent, the pupil's heredity and home

atmosphere would also have a great deal to say in this regard. In general terms, we can only say that the teacher will have to combine precept with practice, if he is to attain any success in this department. The responsibility of inculcating proper behaviour amongst school children will, therefore, rest as much with the school-master as with the parents and guardians and the rest of the pupils in the area concerned, who are unconsciously the models for young children as regards their speech, habits or behaviour.

170. The most important item in looking to the health and general bodily well-being of pupils, especially in the higher classes of the Basic School, relates to a proper knowledge of sex and its incidents, both in boys and in girls. Sex matters have of late attracted considerable attention. Educationists have laid increasing emphasis, since the rise of the Freudian school of psycho-analysis, upon an adequate enlightenment in regard to sex, its place and function in the daily life of the individual. It may be conceded at once that sex-repression, or inhibitions and complexes formed because of such repression, do constitute an important factor in the development of the personality of man and woman, not merely during school life, but also in adult life. In common with all other countries of an old civilisation and long established social convention, India has had a social system and ideology, under which it is not regarded as proper to emphasise the details of sex life to such an extent as to arouse unnecessary and disproportionate curiosity. Excessive or premature discussion could only pave the way for pernicious and precocious self-indulgence, and so produce those vicious habits which undermine effectually the health and morale of children. Such discussions, instead of forming, enlightening, warning, or guarding, only serve to sharpen curiosity, to invite experiment, and exalt experience, however premature or undesirable. Instead of a proper understanding of the mystery, it might only whet desire to the point of adventure into the unexplored regions.

171. India, besides, has her own social economy. Under this, by means of the institution of early marriage before sex development at all begins to dominate the life of the individual, a knowledge of the sex organs, their function and importance in the life of the individual, comes in the normal course of married life in proportion as sex developments begin to assert in the body and on the mind of the individual. In the industrialised countries of the West, however, with the family dismembered, with the individual thrown more and more on

his or her own resources, faced with temptations in large centres of promiscuous population, the conventional reticence on sex matters, at home, in school, or in society at large, becomes impracticable, as well as perhaps undesirable.

172. But industrialised economy is in rapid progress even in India. Towns are growing; population is beginning to be more mobile; the influence of family life, its conventions, decorum, and safeguards, are beginning to crumble in the face of new forces. The individual is compelled to enter more and more into the fierce struggle for life, without any of the supports and safeguards which the archaic family provided under the conditions for which it was designed. On the other hand, as in the West, in this country, too, new factors and agencies are developing, e.g., the press, much of modern fiction, the cinema and the radio, which are bringing forward the dangers of ignorance on sex questions to the front.

173. In saying this we would not be understood to mean that sex information should be conveyed in the crude and exciting manner that the popular screen now-a-days is apt to do. On the other hand, we have no objection to sex-knowledge being conveyed in a scientific, or at least decorous language, by staid and responsible teachers, and in the relatively senior classes. In the ordinary village surroundings, the average child will be more familiar with the phenomena of sex in the lower as well as the higher animals, if not in human beings, than the town-dwelling child. A little guidance at the right moment, a proper explanation when any natural phenomenon comes normally within the range of the child's observation, a suitable correlation of the scientific facts connected therewith, will go a long way, not only to break down the sense of mystery, but also to impart the really material information that is necessary for a proper education in these matters. Whatever knowledge and information is imparted on the subject, must, it is needless to add, be imparted in the later years of the Basic School, say, after 12 years of age, and in separate schools or classes for boys and for girls.

174. It is also of the utmost importance to determine what amount and what kind of knowledge on this subject should be imparted. How is it to be imparted, and when? As regards the last point, this subject should be taken up only in the last two years of a Basic School, and that, too, in separate classes, if not in separate schools, of boys and girls. As regards how and how much of his subject is to be conveyed, the problem is more difficult. The subject may be discussed or explained

through the ordinary natural phenomena of animal and bird-life around the village and even an ordinary urban school. But, if that is not possible, at least in urban schools, or if that does not suffice for the purpose, a proper curriculum will have to be designed, and a proper method devised, in the first instance for future teachers, to handle this subject.

175. We have offered the foregoing observations, and made corresponding recommendations, not without some hesitation. Our hesitation arises not only from the somewhat delicate nature of this subject, but also because of our consciousness that our observations and recommendations might possibly make some readers consider we attach disproportionate importance to this subject. While we do not believe in perpetuating the conspiracy of silence which has affected this subject all over the world until very recent times, we also feel that instruction in this subject is apt to be over-emphasised in inexperienced hands, and thereby liable to create more dangers than are intended to be prevented by such instruction. Nor are we unmindful of the value of conscious self-control—which we distinguish from mere repression—that cannot but aid in the development of character, strength of mind, and firmness of purpose. This, we think, cannot be too highly commended as an essential ingredient of all sound and high education. We accordingly recommend that sex knowledge should not be banned from the school, and emphasis should be laid on the need and utility of self-control or *Brahmacharya*.



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CHAPTER IX.

TEACHERS : THEIR TRAINING AND RECRUITMENT.

176. Again and again in the preceding pages of our Report, we have referred to the great lack of teachers for carrying into effect the recommendations we have made. Properly trained teachers are most important in any sound scheme of education; and under our proposals they would be doubly so, as we recommend a radically new method of education and that, too, for an immensely increased number of pupils. The existing number is, as pointed out already, too small for the immense advance necessary for the progressive realisation of our programme of 10 years' duration, so far as boys are concerned, and 20 years' for girls. We have only about 30,000 teachers in the existing schools, of whom less than 2/3rds are trained for the present requirements of those schools. We shall also need a considerable number for pre-school institutions, which will have to be trained in institutions maintained by Government. For our aggregate requirements, therefore, we shall need a much larger number; and they would have to be trained in a totally different technique of education. At the present time, most of the existing primary schools are under-staffed, since out of about 17,000 primary schools, 13,492 are only one-teacher schools. These will have to be strengthened and brought up to their proper complement of staff, while the new schools, needed for the increased number on a compulsory basis, would have to be likewise provided for.

177. Our problem is not merely a problem of numbers; it is still more strongly a problem of quality. The key to educational reform, it has been well said, is to be found in the training of teachers. In the following paragraphs, we outline ways and means for training properly new recruits to the teaching profession, and for re-training such of the existing teachers as are willing to fall in with the new scheme, and qualify themselves accordingly.

178. We are aware indeed of the handicaps in this regard from which this Province, along with many others, suffers, and the extreme difficulty of removing this handicap at the earliest possible moment. There are several important criticisms urged against the prevailing system, which all apply in a very much increased degree against the system we are here

advocating, if care is not taken from the very start to see that the root cause of the criticism is removed as early as possible. At the present time, teachers suffer from a lack of adequate professional knowledge or technical training, which would enable them to discharge their task with credit to themselves and satisfaction to those who benefit by it. In the 20,000 odd schools now in the Province, and from amongst the 30,000 odd teachers serving in these schools, there are over 19,000 trained teachers in all primary schools. To carry out our programme we would need about 25,000 schools of full normal strength, and at least 150,000 teachers. Everyone of these teachers will have to be duly trained and properly qualified, if the entire system is not to be jeopardised from the start; for the success of the system is dependent much more upon the adequacy of the teacher for his task than on any other single factor affecting our programme.

179. In order to provide for a regular supply of about 7,500 new teachers every year, it will be necessary to open 100 training centres each enrolling 300 students. The course should, in our opinion, be of three years' duration, and the minimum qualification prescribed for admission should be the passing of what is called at present the middle examination. Of course, a large number of matriculates will be forthcoming for this training, and they should also be admitted. Later, when our scheme of Basic Education has been fully established, the large majority of candidates will be from the Basic Schools, after they have completed their full seven years' course. In case candidates from secondary schools desire to receive this training, after completion of that course, they may be given some concession, say, of one year, in the training school. Great care should be taken in the selection of these candidates for the teacher's profession, as on their calibre and quality would depend the entire success of our scheme. For this purpose, we suggest that the inspecting officers should keep in touch with promising candidates in their districts belonging to various communities, and should forward the names and detailed qualifications of such candidates as are competent, healthy, social-minded, and likely to do well in the teaching profession.

180. The final selection for admission to the training schools should be made out of these lists. Any other suitable candidates may also be admitted after a suitable test and interview by an authority appointed for the purpose, which should have official as well as non-official representatives on

it, due regard being paid to the claims of the various communities, whose adequate representation in the educational service is necessary in the interest of the harmonious development of the Province.

181. In the case of the teachers now in service, it will be necessary to train them also in the new technique of teaching. We recommend for this purpose that all teachers, who have put in at least three years' service, should attend short, intensive courses of training, lasting for about six months, during which period they should be given training in crafts, and should be taught how to correlate the teaching of crafts with other school subjects. A proper orientation should be given in the new syllabus towards the active method of teaching through some purposeful activity. We shall then have much less difficulty in making good the deficit in the number of properly-trained and qualified teachers, in order to make the scheme we have recommended a success.

182. Another point which the Government may consider in this connection is whether, in the interest of economy, organisation, and speed, it would be better to split up the normal period of three years' training into two parts—a two years' course, in the first instance, followed by a few years' actual work in schools, and then a final course of one year's training, which would properly complete the teacher's professional equipment. This will perhaps enable the department to judge if its training facilities were adequate for the purpose.

183. Teachers, however, who have been trained in this manner, should be given opportunities to attend refresher courses, so as to keep them abreast of times, their methods of teaching up-to-date, and their familiarity with the progress of educational theory or experiments that may be taking place in this or other countries, as modern as possible. The Committee would, therefore, recommend it as a most desirable feature to introduce that every teacher recruited professionally to the organisation, be enabled, at stated intervals, to undergo refresher courses, where his or her training may enable him or her to pick up the substance of the progress that may have taken place since he or she left off regular training.

184. To carry out this programme, we may have to combine more than one school, or the schools of more than one village, and redistribute their student population, so that the existing schools may be more systematically organised and staffed. For

new schools, the rule must be absolute, permitting no exception, so that every new school in the Province would, from the start, be staffed in this manner. Existing schools below this strength should be regrouped, or combined with other neighbouring institutions to form a school unit of the required normal strength. This, however, is a process which may cause unexpected dangers, e.g., depriving some villages which now have a school of a poor quality, if any school at all. Under a system of compulsory education, however, this danger need not be over-emphasised. And the same may be said of the danger that, for years to come, we may have to put up with one-teacher schools. If that happens, we must put up with it, rather than make any existing school go out of existence altogether. But efforts must never be relaxed to bring up every school to the prescribed normal strength, so that in time and without much loss, we may realise our objective.

185. There is, also, the new handicap from which teachers are increasingly suffering, viz., the growing factor of political influence in recruiting teachers initially, in maintaining them in the different areas, in their discipline, promotion or transfer, or dispensing with their services. Political influence is a potent factor in all democratic States. It is all the more so where democratic institutions are relatively new and unfamiliar, where parties are still not quite well organised, each commanding the allegiance of a sufficient section of the population to provide its own quota of the required public servants, and where special interests, classes, or communities have to be catered for under the basic law of the constitution. In India these are living factors, which will continue to be of grave importance for some years to come, in any case. The teaching profession cannot claim, any more than others, to be exempted completely from any political influence whatsoever. We will, no doubt, have to provide, under the Education Code of the Province, for some kind of agreed proportions of teachers drawn from different communities. We must likewise guarantee a certain minimum of educational programme and activities which would meet with the legitimate demands of minority communities, in regard to the actual subjects of education, and matters relating to the internal discipline and working of the school. Subject to these concessions, and subject to the fundamental fact that new India will be a democratic State, precautions must be taken in advance to see that such factors do not imperil the efficiency of our entire system, its basic policy, and its principal objective.

186. Regulations governing the recruitment and discipline of teachers, including the rules of their promotions or transfers, their pay and status, provident fund or pension arrangements, vacations, and their rights and responsibilities regarding their pupils, the public and their immediate superiors, must be contained in the Basic Code of Education. A charter of teachers' rights and obligations should be simultaneously enacted as part of the organic law of education by the Provincial Legislature, to give the teacher that zest in his task which is now conspicuous by its absence.

187. Those appointed teachers must be guaranteed, under this charter :—

- (i) a living wage, as recommended elsewhere;
- (ii) security of tenure in their post;
- (iii) full freedom of opinion, expression or association, provided they do not actively participate or involve themselves in any anti-social or subversive activities;
- (iv) adequate facilities to improve themselves by further study and travel;
- (v) due provision on retirement from service by way of pension or provident fund.

We would recommend that these rights be guaranteed to teachers by the Code of Education.

188. We consider that our recommendation for an average salary for a professional teacher of Rs. 20 per month compares so well with the present scale of Rs. 9 or 10 p.m. that we need not apprehend any insurmountable difficulty in attracting the proper personnel in adequate numbers. The much greater difficulty would be that of having the new recruits to the service duly qualified. We consider it as an imperative requirement of our proposals that all new recruits should be qualified men and women; and that the existing workers, if they choose to continue in the service, must undertake to obtain the minimum qualification required for this task within a reasonable period.

189. We realise the difficulty of providing the personnel and institutions needed to train up such a large number of teachers for the new system; but the following concrete suggestion is worth considering. We have a large number of

private high English schools in almost every district town which may well be expected, for the time being at least, to meet all the needs of the people demanding such high school education. The Government high English schools, known generally as zila schools, may thus be freed from their present task, and may be converted, in whole or in part, into schools for training teachers according to the new scheme. We may thus have 16 training schools to begin with, which may annually turn out 100 teachers each or 1,600 teachers in all, without additional capital cost of building. The teachers now employed in zila schools will be many more than those required for the training schools. These surplus teachers may be employed in opening additional training centres, or in inspection work, or as teachers in Basic Schools. In zila schools, which are so converted in part, the lower classes may be retained to serve as practising schools. Other primary schools in the town may also be used as practising schools where the teachers under training may practise.

190. At present we have some 55 elementary training schools spread over the whole Province. These will not be efficient for the new scheme. Two or three of these may be combined, and we may thus have, with some additional buildings put up, another set of 16 training schools. The teachers employed in those schools, as also those released from zila schools, could be employed in these training schools according to the new scheme. If it is considered desirable, the schools in village surroundings may be converted, so that the teachers under training may have an additional advantage. We can give training to another 1,600 teachers, and thus secure 3,200 teachers every year without much capital expenditure. If the zila schools are closed, and their staff employed in these schools, the addition to the recurring cost also will be practically negligible.

191. Besides, there are now in existence four training schools at divisional headquarters. These will train another 400 students. In all, we shall be able to turn out 3,600 trained teachers every year through these institutions. New training schools will, however, have to be established for the additional teachers that may be required for the working of the schools.

192. The Training College should take up the work for training teachers for the training schools. For 32 training schools we shall require 160 teachers, reckoning five teachers for each school. Adding 10 more for casualties, we shall have to get 170 teachers trained in the Training College.

Seeing that the teachers in zila schools have, many of them, already some training in teaching, a six months' course for training in the new method may be enough for them. In about four courses of two academic years, we can have the necessary number of teachers for training schools trained in the Training College. Within this period, the zila schools and existing lower grade training schools may be converted into training schools in the new method.

193. In order to train the staff of these training institutions, we recommend that a teachers' training college be established, preferably in a rural area, providing accommodation for about 100 teachers, and offering a professional course of one year's duration. Promising graduates and experienced teachers already in service should be eligible for admission to this college. Needless to add, that the bias in this training college would be radically different from that in the existing Training College, since it would be training teachers for a different type of schools altogether.

194. There are at present (1936-37) 196 high schools (for Indian boys) in the Province, of which only 18 are Government schools, the rest being all the result of private enterprise. Nothing much will be lost if these 18 are abolished, and converted into training schools. The Government expenditure on these high schools is Rs. 6,19,209. We think that the savings effected if our suggestion is adopted could be utilised in giving extra aid to private high schools to improve their efficiency.



CHAPTER X.

ADMINISTRATION.

195. The introduction of the far-reaching and radical re-organisation, which we have proposed in this Report, would necessarily involve a corresponding re-organisation and strengthening of the machinery for control, supervision, and general administration of the entire Department of Education. The mere increase in the number of schools and scholars, which must take place, if our scheme is enforced, the adoption of the active method of teaching, in place of the present passive method, the attempt to attract classes and sections of the community which have hitherto remained persistently aloof from any considerable education, the new type of teacher needed to give effect to these changes, and the correspondingly new type of inspectors to supervise, control, and direct, or aid in the execution of our programme of universal Basic Education on a basis of compulsion, the advent of self-governing institutions in the political constitution of the country, with its corresponding reaction upon the local bodies—all these changes demand a complete overhaul and re-organisation of the Department, and authorities concerned with the administration of education, which we shall now proceed to discuss.

196. We shall consider this subject in the following order. To begin with, we shall outline the basic principles governing our proposals for administrative re-organisation. Next we shall consider the existing arrangements for the administration of the provincial Department of Education, and suggest their reorganisation in accordance with our proposals. Incidentally, we shall indicate the necessary changes in the machinery of inspection and control, which is indispensable if the scheme is to succeed, and the dangers we have noted in connection with the working of the department today are to be avoided, or at least minimised. We shall then examine the local machinery for the conduct and maintenance of educational institutions, and suggest ways and means by which these could be strengthened and improved.

197. Let us first consider the question of the governing principle involved in the administrative reorganisation suggested in the following paragraphs. This reorganisation is necessitated by the recommendations we have already made for the introduction of a system of compulsory, free, universal,

Basic Education. We fully realise that, on principle, the introduction of democratic governance in the country requires a correspondingly democratic machinery in all departments of Government, including education; and this last is believed to be satisfied by a measure of devolution and decentralisation in the actual administration of such departments as education. But every legitimate requirement of the principle of democratic governance is amply fulfilled by the introduction of a system of ministers responsible to the representatives of the people in the Legislature. The Department of Education, like other departments of Government in the Province, is now in charge of such a responsible Minister, who is part of the provincial council of Ministers collectively responsible for their actions and policy to the Legislature. It is he who lays down the basic policy; he who initiates and carries through the Legislature the basic legislation needed to give effect to that policy; he who superintends, controls, and directs the Department, and the officers concerned with the day-to-day administration of that Department and its policy. The principle of democratic government is thus fully satisfied, because the ultimate supremacy of the people, in initiating the policy and supervising the administration, through the elected Legislature and the responsible Minister is thus fully assured. Under the fundamental legislation prescribing the governing policy laid down by the popular Legislature, the actual day-to-day administration of the educational institutions may well be entrusted to popular local bodies, subject to the necessary supervision and control by the Provincial Government.

198. The Department of Education, as it should henceforward be styled, in place of its present style of the Department of Public Instruction, will, then, under our recommendations, continue to be presided over, directed, and controlled by the Minister for Education. The functions of the Provincial Government, under this scheme, and as laid down by the organic law on the subject, may be summarised as follows :—

- (1) to lay down the general policy, and prescribe the fundamental principles on which the new system will be based;
- (2) to define clearly the aims and objectives of the new educational system, and indicate the proper method of providing such education;
- (3) to maintain a Department of Education with an adequate inspecting staff;

- (4) to formulate the general scheme of work in the Basic Schools within this system;
- (5) to introduce and enforce progressively the principle of compulsory education, so that the ideal of every child of school-going age receiving the necessary minimum equipment for efficient citizenship in the new scheme of things may be fulfilled;
- (6) to prescribe the conditions of supervision, guidance and control, which each higher organisation is to exercise over its next subordinate organisation, reaching right down to the individual school;
- (7) to exercise, generally, rights of initial recognition, (which may be delegated), inspection, guidance, and control. These rights of control, supervision, and guidance may include the creation of posts, the selection of particular individuals to fill those posts, and the supersession of any local authority found inefficient in the discharge of its educational duties. These are, of course, all matters of detail, which will have to be gradually worked out through bye-laws under the main Code of Education;
- (8) Government may also reserve to themselves by law powers of appeal in any cases of dispute, either between two authorities, or as between individuals, in regard to administration, or in questions of discipline; and in regard to any of the guaranteed rights of teachers;
- (9) to maintain provincial institutions, which are not within the means of any local body, or institutions of provincial importance to particular areas;
- (10) to provide training schools for teachers of all grades of work in the entire system;
- (11) and, lastly, provide the necessary funds in aid of, or by way of supplementing, such resources as may be available to any local body.

199. It will be under the inspiration, and at the initiative, of the Provincial Government that the fundamental policy in regard to education, and the basic or organic law embodying

it, would have to be formulated. The organic law on the subject must unambiguously declare the aims and objectives, the nature and purpose of public education. It will, for instance, be part of the basic policy to lay down that the aim of the law is to provide every citizen-to-be with the basic minimum of education, regarded as indispensable for the proper exercise of the rights of citizenship, free of any cost to the recipient. The law must also prescribe that there should be no separate or special schools exclusively for any class or community, in order that the ideal of uniform education to all citizens irrespective of birth or wealth may be carried out as fully as possible. Wherever any measure of differentiation is necessary on any of these otherwise undesirable grounds, the law must provide clearly the conditions and limitation under which recognition would be granted to such institutions. The law should also provide for due protection of the just rights of cultural minorities, e.g., due regard to their language, script, or literature. It should, finally provide that the physical and mental welfare and development of the children must form an integral part of the process of education.

200. Under these arrangements, the Provincial Government will have the most important say in providing the finance needed for carrying out this vast programme of public education, by placing at the disposal of local bodies sums of money considered to be necessary for discharging this duty imposed upon them. Over and above this, the Provincial Government, or the Minister acting in their name, will have a large margin of powers of supervision, control and direction, under the basic law, which is also enacted at the instance of Government. These powers will be exercised, on the advice of the Provincial Board of Education, and a large staff of inspectors, whose constitution and functions we shall outline below.

201. The Provincial Board of Education should be an administrative as well as an advisory body, with powers of supervision, control and guidance over local authorities; with the duty to see that the basic policy is being duly carried out, and to consider the distribution of available funds and resources; with the right, in particular, of making recommendations to competent authority with respect to the exercise of disciplinary powers in regard to the personnel and the general administration of the Department. The Board should consist of 17 members, with the Hon'ble the Minister of Education as *ex-officio* member and President, and the Director of

Education as *ex-officio* member and Secretary. Under present conditions, we think it as well to give an *ex-officio* position to the administrative chief of the Department, called the Director of Education, in this Board, on the same grounds on which we have provided hereafter for a similar position to the district inspector of schools on the district education committee. The other members of the Board should be elected, or appointed as follows :—

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|---|---|
| (i) four chosen from the two Houses of the Legislature in such proportion as the rules made in that behalf may provide. | 4 |
| (ii) the Vice-Chancellor of the Patna University, <i>ex-officio</i> . | 1 |
| (iii) the Special Officer in charge of Basic Education. | 1 |
| (iv) one Inspector of Schools, nominated by Government. | 1 |
| (v) one Inspectress of Schools, nominated by Government. | 1 |
| (vi) one Headmaster elected to represent Basic Schools. | 1 |
| (vii) one Headmaster elected to represent secondary schools. | 1 |
| (viii) two elected from amongst representatives of the District Education Committees. | 2 |
| (ix) one elected by the municipal education committees. | 1 |
| (x) four nominated by Government, of whom one at least should be a Muhammadan. | 4 |

The Board will have a life of five years, but provision may be made for proportional retirement of the elected and the nominated members, so that new members may come in from time to time.

202. Under the Minister for Education, as aided and advised by the Board of Education just described, there will be the Department of Education in charge of a Director, who will be its administrative chief. The Director of Education, as we now propose to style that officer in place of the Director

of Public Instruction, should, we consider, be in direct contact with the Minister for Education. We also hold it to be essential that the present arrangement, which provides for the Secretary to Government (Education Department) intervening between the Minister and the Director, be radically recast. The Abbott-Wood Report also recognises this difficulty, and points out that this arrangement leads to waste of time and needless delay, and complication in the transaction of business. We, therefore, recommend that the Director of Education should perform the functions of the Secretary to Government, Education Department. In future, appointments to this post should be made from amongst officers of the Department who have had personal experience of school work and administration.

203. For the proper discharge of the duties laid upon him, the Director of Education must be aided by an adequate staff, duly trained and equipped for the vast amount of work which will fall upon the Department, as the programme we have recommended is being put progressively into effect. One or more Deputy Directors may be necessary to look to the special branches of the Department, in respect of secondary schools, special institutions, and finance. These posts may be filled by officers promoted from the inspectorate.

204. The expansion of primary education and the new method for its being imparted that we contemplate, would demand a very considerable increase in the number of inspecting officers. Generally speaking, we think, one inspecting officer should not have more than 100 schools under his direct charge. The strength of the inspectorate will, therefore, have to be increased on this basis, as the number of schools grows; and a total force of 250 to 300 cannot be deemed excessive.

205. We cannot, however, expect all this responsible and somewhat new type of work to be done by the Inspectors, without adequate and suitable training. The present provision for the training of inspecting officers in the Training College should be expanded to accommodate all the additional officers that may be required and to provide for all the new conditions and requirements of their work. This course should be of one year's duration; and the officers should not only be trained in the technique of inspection and school organisation, but also given a sympathetic understanding of rural problems and conditions of rural life which the schools are concerned with improving. Admission in this class should be open either to

promising graduates, or to experienced teachers in the Department, who show special aptitude for this kind of work, and have completed at least the full course of secondary education. It would be the duty of these officers to assess the efficiency of school work by means of sample tests, to act as sympathetic advisers and guides for the teachers under them, and to help in the better understanding of educational experiments being carried on within their jurisdiction or outside.

206. These inspecting officers will remain as they are today, except that perhaps it may be possible to dispense with the Divisional Inspectors in charge of several districts each. On our recommendations, however, and given the system of universal compulsory education, the scheme of purely administrative work is likely to increase so much, that we feel it would be unavoidable to increase the strength of the district inspectorate, even if we may dispense with the divisional inspectors. The District Inspector would in each district be the representative of the Provincial Government. He will deal directly with the district and local authorities, on whose Education Committees he or his assistant would have an *ex-officio* place; and would report to Government directly on all matters concerning the administration of the schools, their maintenance and efficiency, as well as the financial grant made by Government. On all questions of educational policy, or the principles laid down in the Education Code, as applied to a district, he would be under the Provincial Advisory Council of Education. He will have the duties of inspection, supervision, audit of school accounts, and the general control over the enforcement of the provisions of the Education Code, and its by-laws regarding staff, equipment, and any other special questions relating to public education. He will also act as the adviser of the district and local authorities on all educational matters affecting the locality. Finally, he will correspond on all questions of policy or administration, personnel or organisation, finance or any other matter, with Government through the Director of Education who is also Deputy Secretary to Government.

207. In all administrative matters like leave, transfers, and promotions of teachers, the District Inspector should not be subordinate to the local bodies concerned, but should work directly under the Department of Education. He should have the necessary authority to maintain efficiency and discipline in the schools under him. Matters of dispute between the

District Inspector and the local bodies should be referred to the Department for final decision. We have made this recommendation because, in the interest of working out this extensive scheme of Basic Education, we believe it is essential to set up an adequate and effective inspecting machinery that would be sufficient for the purpose. At the same time, we contemplate that, in due course, when the new system has become properly established, it would be possible to transfer to the local bodies the right of appointing their own educational staff and thereby reducing the work of the district inspector, and emancipating themselves from his authority.

208. Having described the machinery of administration at the top, let us next consider the actual working of the system from below. Under the principle of devolution and decentralisation, which is but the legitimate counterpart of democratic governance, in practice all such matters of public welfare are entrusted to popular local bodies. These are, therefore, more directly concerned with the day-to-day administration of such services; and they accordingly would naturally desire to extend their powers and functions so that self-government may be real and visible to every citizen. But this does not militate against the general principle of efficiency in administration in a democratic State. For, though local self-governing bodies may have certain powers and functions of government in regard to such departments of public service, they act as the delegates of the central authority; and, as such, cannot question the legitimate right of the latter to formulate the basic policy, enact legislation, and exercise general supervision and control over these local self-governing bodies, especially when they also provide the bulk of the resources needed.

209. In full conformity with these principles, we would have liked to recommend setting up an administrative machinery, which would have made education directly responsive to local opinion, and in conformity with local needs, so that it may be adjusted fully to the ideals and aspirations of the people, under the general control of the Provincial Government. But, at the threshold of a radically new system, tried on a universal scale, on the basis of progressively increasing compulsion, with a personnel which would have to be specially trained afresh in the new method, and with an enormous increase in the number of schools and scholars, we consider the experience available in local bodies is not adequate to the task in hand. Democratic institutions, moreover, on the scale they are tried today, and on lines on which they are likely to be working, are

new and unfamiliar in India. It is, therefore, likely that, in the present state of these institutions, there may be danger of untoward developments, more serious than could be anticipated, if such vital services are left in absolute control of such bodies.

210. In view of these considerations; and in order to set up the requisite administrative machinery in the districts and work it satisfactorily, we believe that, for the time being at any rate, it is necessary to maintain central control over the working of educational institutions in charge of local bodies, in a larger measure than might seem quite consistent with the basis of local self-government. So far as the basic policy of education is concerned, it would, of course, be responsive to public opinion, since it would be prescribed by a popular Legislature, and guided and controlled by a responsible Minister. But the detailed, day-to-day control of educational institutions maintained by local bodies needs, in the interests of efficiency, to be placed in charge of experienced educational officers, who would work on the policy laid down by the Legislature. These officers must be guaranteed in their position, and must be able to offer their independent advice and help wherever needed without fear or favour, which is unlikely to be assured if they are placed under popular local bodies. This arrangement is all the more needed in the period of transition through which this country is passing today, when serious complaints against the administration by local bodies of educational matters, including appointments, promotions, or dismissals of teachers, the use of these teachers for political or party propaganda, the misuse of funds for political or sectional purposes, etc., are by no means unheard of. In these circumstances, we are anxious that the success of the scheme we have recommended should not be jeopardised by such avoidable factors; and hence our recommendations in that behalf are outlined more fully below.

211. Under the general principles that we have enunciated, there must, however, be available sufficient latitude to permit local adjustments, in working the system wherever needed under changing conditions. The constitution and functions of the local bodies authorised to set up and maintain the educational institutions needed in their locality would be provided in the main law, which will also define their powers and duties. At the same time, their relations *inter se*, and with the Government of the Province, the rights of the latter in regard to audit of accounts, inspection of schools, conditions of recognition,

approval to certain executive acts of the authorities primarily concerned, must also be laid down in the Basic Code. Power may, however, be given, under the Basic Code, to the Provincial Government to make by-laws or regulations to govern all such points of detail.

212. The principal local authority for the purpose of educational administration will be the district boards in rural areas, and the municipalities in towns, who would constitute their own education committees on lines similar to the Provincial Board of Education. This Committee should consist of about 15 members, elected or nominated by the district board (or municipality) from among their own members, or from non-members provided that there is some representation for each subdivision within the district; and that there is at least one woman and one Muslim in the Committee. The district inspector of schools should be an *ex-officio* member of this committee, and must act as its secretary.

213. Under the District Education Committee, there may be other local educational authorities, corresponding to the smaller local areas or jurisdictions for which there are appropriate self-governing bodies, and which are empowered to institute and maintain their own educational institutions, under the general policy laid down by the organic law in that behalf. The governing principle in this system of a series of local bodies, each with their own educational institutions, would be somewhat as follows: the actual conduct and management of an educational institution will be in the hands of the local body immediately concerned, beginning, wherever feasible, with the village *punchayat*, while the supervision, control and financial assistance for the maintenance of such educational institutions will be entrusted to the next higher local authority in the series. Each higher authority may, again, have its own institutions directly conducted and maintained by it, under the supervision and control of the next higher local authority, which are of common utility to the entire area within the jurisdiction of this body; or which are outside the means of smaller authorities to maintain on their own. For our purposes, however, the principal local authority to be considered is the district board (or the municipality), acting through its Education Committee.

214. The District Education Committee or its municipal prototype, should be empowered to elect its own chairman and to have its own staff, to enable it to discharge its various

functions efficiently. It is necessary to define the position of the district inspector. This last item has been strongly commented upon by the Abbott-Wood Report :—

“ There is one administrative feature of the system which appears to us to be particularly undesirable. The Secretary of the Education Committee of each District Board is one of the government inspectors responsible for the schools in that area. Such an arrangement as this may be necessary as a stage in the development of local self-government, though it is obvious that an inspector of schools cannot work with the maximum of efficiency if he is called upon to serve two masters. But in the United Provinces the position of the Inspector is even more unfortunate. The Government, we understand, is under a statutory obligation to transfer the Inspector from the District if the Education Committee of which he is the Secretary passes a resolution of no confidence in him. This is an intolerable position in which to place an inspector; and it is no answer to say that transfers on this account seldom if ever take place. It is not definitive action on the part of the local body which matters but the power to take such action. And of course the position is not redeemed by the fact that the Government, if it were called upon to transfer an inspector on these grounds, could make it clear to him that they themselves had no fault to find with him.

“ When local administration can be relied upon for integrity and efficiency, education committees will presumably have their own officials responsible to them alone. The government inspector will then be in a position to do his work effectively; that is, a position of dispassionate detachment in which he can act, advise and inspect without fear or favour.”

215. This criticism is not without its justification. The principal cause of criticism, we may add, against the present system, and one which may likely be repeated under the new system, is one in regard to the appointment, removal, transfer and discipline of teachers. In order to guard against this we would recommend that no one be enrolled as a

teacher unless he or she is properly qualified as provided by the Education Code. For the rest, the teacher's position is guaranteed by his charter as described in an earlier section of this report.

216. Before we pass on from this subject, we would like to add that schools under the system we recommend must be provided by the State, whether on its own direct initiative, or through local governing bodies, which function as agents or delegates of the State. Even if the task of providing and maintaining the necessary number of schools in every village, town or district, is left to the appropriate local authority, the right of the Provincial Government to inspect, supervise, and lay down the basic principles of education, which, in the interests of the community, it is desirable to provide, must be reserved for the Provincial Government. The same authority must also prescribe conditions which may entitle a school to be recognised in the first instance as providing the necessary minimum of education demanded by the law. The power of initial recognition is of the utmost importance, not only to maintain an adequate number of schools, but also to keep them up to the required degree of efficiency. Definite rules must be laid down in the Basic Code of Education in the Province prescribing the conditions regarding building, equipment and staff, on which only any school would be recognised after proper inspection by a Government inspector. The inspector must be a provincial officer, and must report direct to the Provincial Government whether or not the local authority offering to set up and maintain such a school is competent to do so, and whether the conditions for such recognition are adequate for fulfilling the requirements of the Code regarding the basic minimum of universal education. Government may then grant or withhold their permission to set up such a school; and the local authority concerned must carry out such conditions or stipulations as Government may have laid down in this behalf, on pain of such aid or subsidy as Government may have promised to afford on this account being discontinued, if the local authority should fail to carry out such conditions.

217. The Provincial Government must keep to itself the right to approve certain appointments to key positions in the educational system, even if the bulk of this function is in charge of the local governing bodies. Lest the local authorities should abuse their powers, or lest considerations other than education influence them unduly in making

appointments, removing officers, or transferring individuals from more congenial to less congenial posts, or otherwise interfering with the programme of education on insufficient grounds, the Provincial Government must also reserve to itself the right of vetoing such changes, if they are satisfied that the grounds on which they are made are not strictly educational, or that other factors have influenced the judgment of the authority concerned than strictly educational.

218. Let us now summarise the recommendations we have made in regard to administrative reorganisation. The administrative machinery thus provided will have, on the top, the Provincial Board of Education; and at bottom, the District Committee of Education. The latter may have under it appropriate committees of smaller self-governing local units; but the main organisation will not take cognisance of those smaller units, and their educational councils or committees. In our recommendations, we have followed the principle of devolution of authority, in order to make self-government real, and a matter of daily interest and practice to the governed. Accordingly, if smaller local councils or committees are needed to manage, control or supervise the educational institutions in each smaller subdivision of the district, right down to the village, we would leave it to the district board, the unit of local self-government, to institute such bodies, and to delegate to them such powers as may be necessary for the proper carrying out of the functions for which such bodies are sought to be established. The Basic Code of Education will, of course, provide the general principles according to which such smaller local bodies should be created, and their powers and functions determined. Power may even be reserved to the Provincial Board of Education to see that the district board does not, in any proper case, unreasonably refuse to institute such a local body when there is every reasonable ground for creating one. But Government's concern will, in the last analysis, be with the District Education Committee; while its own policy will be carried out, and the funds devoted to education administered, by or under authority of the Provincial Board of Education.

219. By this means, all legitimate desire for a real hand in governing themselves will be conceded to the people; and yet very little room will be left for such abuses of political power, influence, or corruption, as may endanger the best interests of education, and of the people of the Province. To

that end, we have given an assured position to the district inspector of schools, who will have an *ex-officio* seat on every District Education Committee, and who will function as the secretary of that body. Being member as well as secretary, he would be under no temptation to subordinate his judgment to political influence in the district; nor need he withhold his honest opinion on all matters concerning education, or provided for in the Education Code, merely to placate local opinion or prejudice. He would have a direct and primary responsibility to the Government of the Province, which pays for his services. To the District Education Committee, or to the district board itself, he need feel no responsibility, except that of a friend, an experienced professional counsellor or expert adviser, who will never baulk any authority in any ambition to promote the real cause of education in the district; but who would also be in a position fearlessly to lay before Government his view of any matter in which the district authority fails, in his judgment, to carry out the duties or functions imposed upon it by the Education Code.

220. The same applies to the position of the teacher. He, too, will be in a guaranteed position; and, provided he does his duty efficiently, he need fear nothing as regards his work or prospects. The teachers may even be organised among their own professional organisations, which should be recognised, and treated as the normal channel of dealing in all matters that pertain to the general interests of the profession, or their work. A sense of solidarity as well as camaraderie will thus be engendered in all ranks of the profession; and the progress of the work itself will be accelerated by the willing and competent collaboration of the teaching profession.

221. Government will have powers, generally speaking, of control and supervision; of administering funds voted by the Legislature, whom of course they would be in a position to influence; to lay down from time to time the basic principles of policy through legislative enactment; to decide appeals when any disputed matter comes up before them; and to conduct such special institutions as pertain to the whole Province, or are in any other way peculiar and beyond the means of local authorities, however considerable. Their ordinary representative and spokesman is, of course, the Minister of Education; while their agent for carrying out in detail the policy laid down in the Basic Code would be the Director of Education, with his staff of inspectors, auditors, etc. The popular

element is secured in the Provincial Board of Education and the District Education Committees recommended above; and so we trust, our recommendations in this behalf would meet with the approval of all interests concerned.



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CHAPTER XI.

MISCELLANEOUS.

222. We shall, in this chapter, consider a number of topics, which we could not quite logically discuss under any of the preceding chapters, but which are nevertheless too important in their bearing upon education in general, to be overlooked by a body required, by their terms of reference, to overhaul the entire system of public education in this Province.

223. As already mentioned in an earlier chapter, one of the purposes of education, as we conceive it, would be to train children into a proper appreciation and appropriate habits of social life. In order, therefore, to emphasise the need for community life, in order to cultivate habits of social co-operation, the schools should, from the earliest years, encourage and maintain institutions and activities which will help to strengthen this idea.

224. We consider it, for example, not too early even in a primary school that a pupils' co-operative society be introduced, where the common requirements of school-life, as well as the ordinary activities connected with education, may be supplied or carried out by co-operative effort. This will not merely accustom children to the habits of co-operation, but educate them at the same time into a proper value of the co-operative principle in all our dealings, in the mechanism and technique of keeping accounts, preparing and presenting reports of its working, and otherwise conducting this institution of the utmost social value and educative service. The constitution and working of such a school co-operative society may differ in minor details from school to school: but the essential principle throughout will be the same. The co-operative societies, moreover, of individual schools may be combined or federated with the corresponding institutions of other schools in the same region or in the entire Province, so that all the requirements of school-life by way of books, stationery, and other apparatus needed for carrying on education may be produced and supplied at the lowest cost to those using them. Except the productive or manufacturing departments of these societies, wherein adult experience and professional skill may be needed, we would recommend that the entire conduct of such

associations, whether single units or combinations, should be left in the hands of the children themselves. The teacher must remain wholly in the background, available for advice, guidance, or even warning, but strictly excluded from any interference with the day-to-day management of the society.

225. Of a slightly different kind, but of the same ultimate educative value, are societies or clubs amongst children for purposes of debating, discussing problems of school-life, and devising methods of solving these problems. These serve to lay the foundation for a proper habit of self-government in the widest sense in later life. We can never exaggerate the importance of the school in inculcating such habits, and making a working democracy something more than a mere name, if not a mockery. Though literary clubs, debating societies, or dramatic associations may have only an academic value, no more than the immediate objective to develop amongst the children certain specific qualities, their aggregate effect in forming and developing habits of self-control and self-government cannot be over-emphasised. Once formed and strengthened, all the vicissitudes of later life will not shake them out of existence. Perhaps such associations may be formed later on in the school career; but we consider even the Basic School appropriate enough for organising students into those bodies which may be of general service in after life.

226. Gymnasia and sporting clubs connected with schools, and games and sports involving team-work and collaborative effort, have also a like tendency. The same must be said of a school *punchayat* or parliament, which, we strongly recommend, should be instituted in every school. The gymnasia and association for sports or travelling may also be woven into the general framework of school-life. Pupils should be trained from the earliest years to secure both comfort and economy by such kind of collective activity in every field. We would recommend, with all the emphasis at our command, that organised school tours to every place of any interest in the neighbourhood or in the Province be made a regular, annual feature of school-life everywhere; and the authorities concerned with the means of transport be required to provide the amplest possible facilities for such "touring" amongst school children. The teacher, too, will participate in such associations and activities, so that while the safety of little boys and girls is duly attended to, the widening of their intellectual and physical horizon following in consequence of such activities helps to add both to their stock of information

about other peoples and places, as also to their general sympathy with other ways than those they are accustomed to. The Indian institution of regular pilgrimages to holy places in large bodies is not yet dead, though it is becoming rather rare. We may record it to the credit of the unknown founders of such places of pilgrimage, that they seem to have had a keen eye to natural beauty in selecting their spots for establishing *shrines* or *durgahs*. Visits to such places by the old-time means of transport were not only a potent instrument of education as regards men and manners from all parts of the country, they also served to stimulate one's innate love of natural beauty, emphasised the value of peace and quiet, and lifted man out of the merely mundane matters that chained his attention into a contemplation of the infinite and the eternal. Though organised pilgrimage is now getting rare in India, and "tourism" not yet established, there is still enough vitality in this ancient institution to permit of its being utilised with the utmost benefit during school-time. Fairs and *hats* are similarly becoming of diminishing importance, in view of the development of a universal market all over the country. We would particularly suggest that such tours be undertaken on foot. They will prove much more educative if they are carefully planned, and at the same time very much cheaper. We are, therefore, inclined to suggest that the fullest advantage be taken of all such activities which have a community character, in which old and young, teacher and pupil, can all participate jointly, joyfully, and on equal terms, and thereby acquire a sympathy and understanding of the world around, which no amount of book-lore will help to implant.

227. In this connection, we would enter a special plea for introducing a common holiday in schools wherein all sections, classes or communities can participate equally. France has her July 14, the day of the fall of the Bastille, symbolic of the decline of ancient despotism, and the dawn of new freedom,—a *fête national* celebrated all over the country. America has her July 4th, the day when the Declaration of Independence was published, and the Thirteen Colonies separated themselves from the Empire of Britain. We, therefore, recommend that, for observation all over the Province, a day or two of universal rejoicing must be declared and set apart, wherein all could and should join, and which would help to cement our sense of national solidarity which often appears rather academic, lacking in body and bone. We need to concretise it; and the declaration of a common day for national rejoicing will, we feel sure, go a long way to achieve this desideratum.

228. As regards school-buildings, we recommend that it may be necessary to make, in the first place, a comprehensive plan of the number of buildings required, their location over the whole Province, and their standard size and pattern. It is desirable that we should have an adequate and efficient standard plan for such buildings. It may be possible, and, indeed, would be highly desirable, that the school building may from the start be so planned and built as not only to allow for the normal expansions of the school itself, but also to serve in off hours for other public activities of the community amidst whom it is located. This would secure all the necessary economy, especially in working. To show how the programme may be worked out, a map of the Province, showing the existing schools, and indicating where they can be added to, has been appended to the Report.

229. In this connection, the Committee would suggest that the possibility of getting most of these buildings constructed through labour and materials supplied by the villagers themselves, excepting so far as they may have to be imported from abroad, may be carefully investigated. The Committee believe that it is not impossible to make very considerable economy by these means, so that the actual cost of such buildings when finally constructed will be much lower than may be anticipated on mere commercial data at the present moment.

230. If Government undertake, either directly themselves, or through the various local self-governing bodies, the manufacture and supply of such building materials as are not locally producible, of apparatus, instruments and other accessories needed for the task on a large scale, by the most economical methods of production, it is very likely that the aggregate cost, usually such a deterrent figure, may be very substantially reduced. If our proposals for a compulsory minimum of universal education materialise, we think it desirable that, not only should the actual education be freed from any charge to the pupils, their parents or guardians, but the school must be so equipped as to provide all the accessories, materials, tools, instruments, or apparatus needed for the task of education *free* of charge to the pupils. To do this successfully, State enterprise on a large scale is indispensable.

231. The progress of education, in the widest sense of the term, would be very considerably aided by a judicious and yet systematic use of such modern agencies for the spread of knowledge and dissemination of information, as the cinema or the radio. Properly treated, these devices can be made to

combine education with amusement, recreation with instruction. The widening of the mental horizon and of the spiritual sympathies of the growing child, which these devices can most effectively and yet imperceptibly bring about, cannot be exaggerated in their educational value.

232. On the other hand, we cannot help observing that, more often than not, these modern agencies for the dissemination of knowledge are themselves the worst offenders in this very field. Particularly is this the case with the cinema, with its tawdry exhibition of the crude and the sensational in the life of the idle rich in Europe or America, its gimcrack show of enjoyment and happiness, its excessive emphasis on the sex *motif* in many cases which is disruptive and subversive by its very subtlety. By this critique of the ordinary film, we would not be understood to imply a wholesale condemnation of this entire agency. Carefully handled, it may, indeed, be a most potent weapon for the widest possible spread of public education in the shortest possible time. Nor, even as things stand today, would we be understood to convey a plea for unmitigated censorship; for such artificial restrictions only too often prove the best advertisement and the most effective stimulant for popularising any objectionable picture. We would rather plead for a regular and systematic public control and operation of this great engine of public education, which, because we cannot restrain it, we must not leave to unrestrained private enterprise; but must utilise for the best purpose to the utmost of our resources. We trust the reconstructed Department of Education will devote all possible attention to these means of spreading healthy knowledge amongst the people that they really deserve, and have its own separate section to deal with them systematically.

233. One of the greatest obstacles in the rapid spread of education, in the widest sense of that term, is the indifference, or incompetence of the average parent to take a living interest in the proper education of their children. Conscientious teachers have to contend very desperately against the average run of parents, who are too preoccupied with their own affairs or amusement to spare time or energy for this work. Parents being still ignorant in an overwhelming proportion, they are unable to appreciate the benefits of education. Much less are they able to appreciate the new system, its radically changed methods and objectives. It is the task of the leaders of the community, therefore, to see to it that such misunderstanding, indifference, or inappreciation is broken down at the

earliest moment. The Department of Public Education must, accordingly, institute a special branch for propaganda amongst the public in general, and the parents in particular, to make the latter not only appreciate the services of the teachers, but to collaborate with them, as far as it may be possible, so as to make the school and its work a potent factor in the social life of the community hereafter.

234. Under the existing economic conditions in the Province, there can be no great room for private enterprise in this field. The Committee are convinced that private enterprise in regard to the Basic Schools, even if it was promising, can never function, except at the cost of proper education, or at the risk of levying an undue tax upon those who resort to it. We must eliminate the profit motive altogether from providing this great service of public utility. Education, having to be free and compulsory in the primary stage, will, generally speaking, not attract the private profit-seeker in this the lowest stage. But even here the experience in cities like Bombay today would show that, though a prescribed minimum of education is provided free, certain classes still prefer to maintain their exclusive schools at their own cost. This is, however, the root vice of our present division of society into economic classes, wherein the richer class commands and perpetuates all the initial advantages. If we desire to provide the basic minimum of education on a uniform scale, we must take steps to eliminate altogether any private agency from this field, or at least lay down rigorous conditions which would exclude the profit motive. Registered or recognised associations of private individuals, e.g., missionary societies, who make a speciality of carrying on educational activities, may be permitted under given conditions, which would ensure the maintenance of the uniform basis and pattern, and which would in no way encourage a sentiment of class exclusiveness.

235. We cannot too strongly deprecate the undesirable social consequences of having separate or exclusive class-schools, whether as privately owned institutions, or State schools. By class schools we mean schools for groups of people, distinguished from other people merely by the degree of their material wealth; and intended to cultivate and emphasise particularly the traditions, privileges, and outlook of such social classes. Such schools may not be exclusive in form or name, but in reality, by the fact of charging specially heavy fees, they may prove to be exclusive, and so help to cultivate a sense of anti-social or unequal stratification in society, which

is fundamentally opposed to our conception of the future of India as a democratic State, with equal citizenship irrespective of class or caste, sex or birth.

236. The same must also be said with regard to special schools for particular communities of a religious kind. In the interest of national solidarity, we would desire that every child, no matter to what community it belongs, should go to the same normal ordinary school provided in every locality for the benefit of the children of that locality at public expense. But we are aware, that however strongly we may lay down these principles, and however sound they may appear to us, the strength of communal prejudice and the force of local circumstances may make the task of Government extremely difficult, delicate, and complicated in this regard. We do not wish to say more on this topic beyond observing that, in view of existing conditions, perhaps some exception may have to be made in regard to separate communal schools in some parts. But, even when such exception is permitted, rigid conditions must be prescribed for permitting such exceptions.

237. The system of Basic Schools which we have described so far will meet the needs of by far the largest section of the community. There may, however, be small groups or classes of people in the Province, who, for one reason or another, may wish to carry on special educational work so far as their children are concerned: or who may make educational experiments in regard to methods or subjects of education apart from those laid down in the standard system. Some latitude should be allowed for these cases; and it may be necessary to permit some exception from the standard requirements of the law relating to compulsory primary education. The following general suggestions are made in this behalf.

238. In regard to special schools, desired by classes or groups of people, who are not satisfied with the education provided for in the normal State schools, we would suggest that they may be exempted from attending the public school, and allowed to have their own schools, provided the authority entrusted with the administration of the Education Code is satisfied that such exemption may be granted. All the conditions in regard to building, equipment, staff, and purposeful activities must be fulfilled; and, in addition, the authority seeking to establish such a separate school must also satisfy those administering the Department of Education that they have a reasonable case for exceptional treatment. Those who

conduct such schools, would, of course, be not entitled to receive any financial aid from the State; nor would they be exempted from such conditions as periodical inspections, including the one before the certificate of exemption is granted in order to satisfy the authority concerned. The same logic should apply to special schools for particular communities like the Muslims, or Christians.

239. Reference may be made here to the special institutions for oriental studies, i.e., the *pathshalas* and *tols* for Sanskrit studies, and the Urdu primary schools (formerly called *maktabs*) and *madrasas* for Islamic studies. The *pathshalas* are little more than primary schools where instruction is given in the 3 R's. So are also the *maktabs*. The real centres of Sanskrit and Islamic Studies are the *tols* and *madrasas* respectively. The *tols* prepare students for the *prathama*, *madhyama* and *acharya* examinations, conducted by the Sanskrit Association; and the *Madrasas* prepare students for the *mulla*, *maulavi*, *alim* and *fazil* examinations, conducted by the Madrasa Examination Board. The requirements of presentday life demand that even those who would specialise in oriental learning of one kind or another should have a fair grounding in general subjects as well. With the progress of democracy in the country, the need for such general knowledge will be more and more keenly felt. The fact has already been recognised by the provision for imparting lessons up to the present primary standards in the general subjects in the *pathshalas* and *maktabs* which prepare students for the *tols* and *madrasas*, where oriental studies proper are conducted. The revised syllabus of the *madrasa* examination includes English also as a compulsory subject, and such additional subjects as Urdu and elements of physics for the *alim* examination. There will, therefore, be no great difficulty, we hope, in linking up the teaching in these institutions with that of the Basic Schools. The Government should, therefore, appoint a Committee, which should, with due regard to the cherished characteristics of these schools, modernize their curriculum, and bring it nearer to that of the Basic Schools so that transfers from one type of school to another may be possible. This would require the introduction of craft work in these schools, and the general organization of the syllabus in secular subjects on the lines of that in Basic Schools. We would further recommend that some provision be made for the training of teachers who are to work in these schools. Their present inefficiency is mainly due to the fact that their staffing and supervision have not received adequate recognition. If

this is attended to, they will, we hope, become a useful feature of the general educational system.

240. So far as the *Madrasas* and the *Tols* are concerned, the Secondary Education Sub-Committee will, we trust, make recommendations in this behalf and accommodate them in the scheme of diversified secondary schools.

241. As regards those educational societies or groups of individuals which desire to strike out new educational channels or make experiments in new methods of education, we would not put any impediment in the way of such private enterprise, developing new modes of thought, or carrying out interesting educational experiments. But, in their case also, we would desire that, while full scope may be available to societies or groups specially organised for the purpose of such experiments, they, in their turn, should be expected to conform to the minimum required of them in the Education Code. We have no objection to the State shouldering at least a part of the cost of such institutions conducted by recognised workers in the field of education, provided the authorities entrusted with the administration of the Education Code are satisfied that these individuals or associations are really doing useful or additional work in the domain of public education, without failing to comply with the minimum requirements of the Basic Code.

242. As regards those classes of people who, while conforming to the minimum requirements of the Code, still desire to conduct their own schools for the benefit of their own children, without claiming to carry on any special educational experiments, recognition may be granted to such bodies or individuals to have their own schools even though of the standard type. Such schools conducted by private enterprise may have teachers, or equipment or methods of teaching, superior to those available in the normal public schools. If so, their cost would be greater; but the State can bear their cost only up to a fixed proportion, leaving the additional cost to be met by contribution by those individuals conducting such schools, or by way of fees.

243. The place and importance of the school as a social institution has yet to be fully appreciated in this country. In the past the school has failed to be the centre of social life of the community in which it is set, radiating light and influence, shaping thought by exchange of opinion and sentiment on important subjects of the day, inspiring new endeavour,

providing new ideals, infusing new zest of life, for reasons already explained. We want the school to be not merely an educational institution, but also to be the hub of the village life, the focus of activities in that small community. The school may well be the village *punchayat*'s headquarters and office, working only in non-school hours. It may likewise serve as a club-house, lecture hall, theatre or picture-palace, where the radio and the cinema could be utilised to their utmost for the benefit of the pupils as much as for service of their elders, in regard to public health and sanitation, public convenience and amusement. It is only when the school, its building, staff, and equipment are converted into the heart and head and nerve centre of village life, that the local community will find and treat it as part of its own flesh and blood, and so foster, nourish, and promote it at every sacrifice possible.

244. We have, throughout this section of our Report, considered the problem before us entirely as the problem of properly educating the children of the Province. But the mass of the people, who today constitute the voting public, and, therefore, the ultimate rulers in a democracy, remain appallingly ignorant; and consequently liable to all the prejudice and superstition to which ignorance so easily becomes a prey. The newly educated generation will, even if our proposals are carried out *in toto* and immediately, not be an effective force till a decade later; and the progress as well as the well-being of the people as a whole might be materially affected by the action taken by the present generation of adults. If we would have in India a really successful democratic and progressive State, we cannot ignore the problem of adult illiteracy, which must be combated no less earnestly and effectively than the problem of the child. We have recommended in an earlier chapter of this Report, that our programme should start not only with the child of 6 or 7 years, but also with a minimum of attention for the adolescent of 12 or 13, so as to secure for such a person also a modicum of education, if only to prevent any further addition to the vast mass of the illiterate. But we think it necessary and proper to mention that the grave difficulty of finding an adequate number of competent teachers will be no less severe in the case of the fight against adult illiteracy than it admittedly is in regard to the education of the growing child. So far, however, as the question is one of mere numbers, we think one solution—and a solution which we would commend to the earnest consideration of Government—will be found in some system of Conscription

for Social Service among the educated youth of the community, which may well help in solving this great problem. Conscription as an expedient to aid in the defence of the country is universally admitted, and generally practised by the western nations, even though it is commonly for wasteful or non-productive purposes. Conscription for the kind of task we have in view in this place would by no means be open to this criticism. And, given the immense poverty of the Indian people, the solution of this problem by the ordinary commercial method of paying for what we want is impracticable. We must, therefore, resort to some such expedient as Conscription of all those young men and women, who may have been educated up to a given standard, and have reached a prescribed age—say 18—to be required to devote 2 or 3 years, between the 18th and 25th years of their life, according to their convenience, to aid in the performance of such tasks as the Government of the Province may declare to be of a nation-building character, which cannot be tackled by the ordinary professional agency working because they are paid for it.

245. The conscript teacher is, we believe, the most easy to utilise, if we confine his services to that aspect of the problem which relates to the removal of illiteracy among the adult population. The training of such conscript worker for the task to be assigned to it is a matter relatively of smaller importance from the standpoint of the time to be devoted to it. A six months' intensive preparation, in special training centres erected for the purpose, ought, we believe, to suffice to prepare these missionaries of enlightenment on a mass scale to do their work efficiently. Their board, lodging, clothing and transport will, of course, have to be borne by the community,—either by Government themselves, or in the shape of voluntary burdens assumed by the people benefited by such activity. The cost of all these need not be phenomenally heavy. And if the conscripts are aided in their work by such devices as the cinema, they would be able to accomplish their task far more quickly than is likely to be the case with children. The adult intelligence is presumably more developed, and better able to grasp the knowledge or information placed before them. And so, with a minimum of outlay, the maximum of results could be obtained in this direction within the shortest time.

CHAPTER XII.

A TENTATIVE PROGRAMME FOR IMMEDIATE ADOPTION.

246. We have deferred consideration of the financial ways and means needed to give effect to our proposals, as of the sources wherefrom these requirements may be obtained, until such time as we have considered the remaining part of our reference. In the meanwhile, with a view to facilitating immediate action by Government, should they desire to do so, on the lines we have recommended in this Report, we append herewith a tentative scheme for immediate adoption which, we trust, will be considered and carried out, if the resources at the disposal of Government permit them to do so. We may add that the figures and estimates in this section of our Report are for the sake of making our suggestions more definite; and not so much as authoritative statistics put forward by the Committee after due consideration.

247. For placing in a concrete form a tentative programme of Basic Education scheme for the Province spread over a number of years, a concrete statement is appended. The total population of the Province according to the Census Report of 1931 is estimated at 32,500,000. A 15 per cent of the same works out approximately at 4,900,000 which is taken as the population of school-going age of both sexes. There are 400 *thanas* in the Province and the average school-going population per *thana* according to the above calculation works out at 12,000.

248. The principal points for such a tentative programme which may be noted are that :—

- (a) The programme is to be given effect to over a period of 10 years, i.e., one-tenth of the work to be done is to be attempted every year, so that within ten years the entire programme is accomplished.
- (b) In case where local custom or prevailing prejudice is likely to render any attempt at wholesale execution of the programme unwelcome to the people, lines of least resistance should be followed; e.g., in regard to the education of girls, public opinion may not accept the compulsory education for the full period of Basic Education in common

schools. In such cases, we may relax the principle of compulsion; but attack the problem indirectly by offering special advantages to educated women, which would wear down, in course of time, the prevailing prejudice, and so render the task more easy of accomplishment.

(c) The attempt is, on the foregoing basis, to be made for a compulsory Basic Education of all boys and girls of seven years of age, by selected *thanas* in each district. In every district the attempt must be commenced, so that no considerable part of the Province should be without such programme being tried amidst it. The selection of the unit to be commenced with may depend upon—

(i) the total strength of the population. The more populous the unit, the greater chance it would offer for a most economical organisation of the experiment, e.g., where it may be necessary to establish separate schools for girls; or for particular crafts the larger population would be a greater convenience;

(ii) the nature and aptitude of the bulk of the population in the selected area may also be a consideration. The more a given class of population is accustomed to educating its children, the less would it stand in need of State schools for providing the education it desires for its children. In such cases the State funds may be used only in aid of the institutions already maintained by the people of the locality, for improving the quality of the teaching and education, rather than for providing the entire scheme of education. It must be noted, on the other hand, that once a system of free, compulsory State education is introduced, the classes which are now accustomed to strain their own resources for educating their children may not do so. Besides, provision of free elementary education must be considered one of the fundamental rights of citizenship, which the State should not undermine, even indirectly, to the best of its ability. We would not, therefore, unduly emphasise this factor in determining the choice of the unit to commence

the experiment, especially if it operates to exclude certain classes from the benefit of free Basic Education for its children;

- (iii) the population of school-going age may be taken at 15 per cent of the total, i.e., 48 lakhs in Bihar according to the census of 1931. This may be less than the actual figure as it would be found according to the census of 1941; but for our present purposes this figure may be quite sufficient.

249. On the basis of this figure; and assuming that, in the initial period the education of girls on a compulsory basis would not be feasible, we would have to provide for about 25 lakhs of pupils in round terms. Even towards the end, girls after 12 years of age are given option to continue in the Basic School, when, if they do, they would be educated freely, of course, and perhaps with special inducements. If we take 10 per cent of this figure as the annual increment in the number at school, we shall have to provide for 250,000 students more every year in the Basic School. For the entire force of 2,500,000 boys in Basic Schools, we would need a total force of 75,000 to 80,000 teachers; or 7,500 to 8,000 extra every year. The cost of educating these 250,000 pupils every year, counting it at Rs. 10 per head, or nearly 40 per cent more than the present unit cost, would be 2,500,000 additional every year. With a proper readjustment of existing expenditure on primary schools to fit in with the new system recommended, and assuming that the scheme is put into effect beginning from the year 1940, the outlay would be in—

1940-41	...	Rs.	25,00,000	plus	Rs.	49,00,000	or
					Rs.	74,00,000.	
1941-42	...	,,	99,00,000				
1942-43	...	,,	1,24,00,000				
1943-44	...	,,	1,49,00,000				
1944-45	...	,,	1,74,00,000				
1945-46	...	,,	1,99,00,000				
1946-47	...	,,	2,24,00,000				
1947-48	...	,,	2,49,00,000				
1948-49	...	,,	2,74,00,000				
1949-50	...	,,	2,99,00,000				

250. This would educate all the boys of school-going age and some proportion of the girls of between 7-12 years of age,

assuming that the population has not grown in the meanwhile. The total of Rs. 3 crores includes the present 50 lakhs already spent on the subject, so that after ten years $2\frac{1}{2}$ crores would have to be found annually in addition, or every year Rs. 25 lakhs, assuming there is no room for any other economy.

251. There are about 400 *thanas* in the Province; and given 16 districts, there would be an average of 25 *thanas* in each district. On our recommendations, the *thanas* would be selected as follows :—

1 in each district according to basis named in the	I year.
2 more in each district according to basis named in the	II „
2 more in each district according to basis named in the	III „
3 more in each district according to basis named in the	IV „
3 more in each district according to basis named in the	V „
3 more in each district according to basis named in the	VI „
3 more in each district according to basis named in the	VII „
3 more in each district according to basis named in the	VIII „
3 more in each district according to basis named in the	IX „
2 more in each district according to basis named in the	X „

25

252. This makes a programme to cover all the districts with an average of 25 *thanas* in each. It may differ in minor details from district to district; but in the main it would hold good. Similarly, the beginnings of the scheme may be made with children of 7 years complete in age, both boys and girls, or those of 6 and 7 years, allowing for those cases where the parents desire an earlier commencement of education. This may mean provision to be made, not for 250,000 boys as we have assumed above, but over 500,000 children in the first year of the programme, when enthusiasm is at the highest, and boys and girls of two years (6 and 7 complete) would join the scheme. If that happens the strain on the resources at the disposal of Government would be proportionately increased. But the ways and means we have suggested in this chapter, as also in the Note on Finance, would also provide more ample means in the first years, with a tendency to diminishing returns as the years flow on, at least diminishing in proportion to the numbers of schools and children.

253. We must also provide school buildings and capital equipment for schools needed for such additional children coming within the scope of our programme. If a school is

provided for every 250 boys and girls, wherever that figure could be obtained, the existing schools being improved, wherever possible, to suit the requirements of Basic Education, we would need at most 20,000 school buildings for the entire programme, or, on the limit assigned to the programme above, about a 1,000 new schools every year after improving the existing schools. The capital cost of building new schools and improving existing ones may be obtained from any of the means indicated in the Note on Finance. The teachers needed also for this scale of programme being executed would be about 16,000 every year, without allowing for casualties, and counting about 30 pupils per teacher. If in the initial years we reckon 40 pupils per teacher in view of the special difficulties attendant on that side of the task before us, we may need for 250,000 boys, 6,250 properly trained teachers every year; or say 6,500. The note added in another chapter on the possibility of utilising the existing zila schools for the purpose of training the needed personnel would suffice to answer this part of the difficulty; and so here, too, we need not dwell any further upon the ways and means of solving that difficulty.

254. It is contemplated to take one *thana* in each district in the first year, 2 *thanas* in the second and third years and 3 in successive years up to the 9th year and to cover the remaining 32 *thanas* in the tenth year. Classes are added on year after year till the maximum of 7 in each school is attained. Compulsion for boys only is contemplated in the scheme. As regards girls, on a voluntary basis only, the percentage expected to be at school has been provided for. Girls have a five-year course while boys have a seven-year course. At the end of the 16th year, the total number of boys brought to school would be 2,450,000 and the number of girls would be 555,000.

255. The pay of teachers has been calculated on the basis of Rs. 20 for the first four years and at Rs. 25 per month for successive years. The contingencies allotment for each school has been provided for according to the following scale:—

				Per month.
				Rs.
7 class schools	...	...	...	6
6 class schools	...	...	...	5
5 class schools	...	...	...	4
4 and 3 class schools	...	...	...	3
2 and 1 class schools	...	...	...	2

256. The number of teachers per school is on the following basis with a provision of approximately 6 per cent extra to cover casualties :—

			Teachers.
7 class schools	...	...	6
6 class schools	...	...	5
5 class schools	...	...	3
4 and 3 class schools	...	...	2
2 and 1 class schools	...	...	1

The teacher-pupil ratio has been kept at 1 to 40.

257. As for buildings, an initial non-recurring expenditure of Rs. 300 has been provided and for the addition of one grade every successive year, a provision of Rs. 150 per class room per school has been made till all schools are full-fledged 7-grade ones.

258. School earnings have been calculated on the following basis :—

	Per year per child.
	Rs. a. p.
For every pupil at school in the 1st year	2 10 0
For every pupil at school in the 2nd year	7 0 0
For every pupil at school in the 3rd year	8 10 0
For every pupil at school in the 4th year	11 12 0
For every pupil at school in the 5th year	11 12 0
For every pupil at school in the 6th year	6 4 0
For every pupil at school in the 7th year	6 4 0

This is in accordance with the calculations of school earnings made in the Wardha scheme.

259. The scheme is framed as if there is no school in existence, and the entire male population of school-going age between 7 and 14 years of age, and about 25 per cent of the girls of the same age, have to be provided for in altogether new schools with 7 grades in the course of ten years. Since there are schools in existence all over the Province, necessary adjustments will have to be made, both as to the location of new schools and improvement of existing ones; and further the existing ones will need non-recurring and recurring costs. The total non-recurring cost comes to Rs. 1,38,30,000 and the recurring cost to Rs. 2,28,18,300 per annum when all the boys and over 22 per

cent of the girls of ages between 7 and 14 will have been provided for in 11,525 schools with 7 grades and 73,295 teachers paid at Rs. 20 to Rs. 25 per month. The non-recurring and recurring costs, as also the number of schools and teachers, will have to be increased as more girls are brought in. According to the calculations given in the Appendix we have provided 11,525 schools and 73,295 teachers for all the boys of ages 7 and 14, numbering 2,450,000, and only over 22 per cent of the girls between 7 and 14 years, numbering 555,000. If all the remaining girls of the same age period as boys are also brought and full provision is made for all boys and girls, i.e., for 4,900,000 pupils, we shall require 21,000 schools and 103,342 teachers. The average recurring cost comes to Rs. 7-9-6 per pupil per year and the average non-recurring cost comes to over Rs. 4-9-7 per pupil. Calculating at the same average rate, the costs will have to be increased by Rs. 1,44,28,125 per annum, recurring, and Rs. 85,68,802 non-recurring, if all the remaining girls between 7 and 14 years of age, numbering in round figures 1,900,000, are also provided for on a compulsory basis for 7 years. These figures do not include expenses which will have to be incurred in inspection and overhead charges and for maintaining teachers' training centres. The figures of expected earnings in the last column show that the earnings will more than cover the recurring expenditure; and if the expenses increase on account of the increase in the number of girl pupils, the earnings will also proportionately increase. Even if the rates of earning which are based on actuals of existing institutions are considerably cut down and a very large reduction is made in them, there can be no doubt that the bulk of the recurring expenditure can be met out of them. The entire non-recurring expenditure which comes to a little over 2½ crores, roughly spread over fifteen years, may not be regarded as beyond the resources of the Province.

260. Most of us also like to point out that even if the Government of the Province feel reluctant to undertake for sometime a programme of the kind outlined above, the nature of Basic Education which we have recommended will go a long way to meet a considerable portion of its running costs by the things produced in the schools. We have recommended that Basic Education should centre round some kind or kinds of purposeful productive activity. Productive activity will naturally produce. If the State only arranges to take over and sell, or use for its own public needs, the product of the educational activity of its future citizens, Basic Schools can pay back to the State a considerable portion of the cost,

incurred in maintaining them. Some of us feel that there is real danger in the economic aspect being stressed at the sacrifice of cultural and educational objectives, a contingency which may prove disastrous to education. But other members, while admitting this danger, feel that it can be effectively forestalled by the vigilance of a competent supervising staff who would appreciate the true educational implications of craft work in schools, and by disconnecting entirely the payments of the teachers' salary from the proceeds of the products of school craft. They feel that a measurable check will be useful in ensuring thoroughness, and efficiency in teaching and in the work of the students. Without some such check there is danger of work becoming slack and losing its educative value. The contribution made by this work to the cost of running the schools will make the younger generation of the Province feel the exhilarating pride of directly and personally co-operating in the great enterprise of national education. In any case the great possibilities of meeting a very considerable portion of the cost of running, at least, Basic Schools—and this would form a high percentage of the total expenditure on education—by the products of the school work, should be thoroughly examined and utilised.



APPENDIX TO CHAPTER XII

Year.	Number of thanas taken in programme.	Number of boys to be provided for.	Number of girls to be provided for.	Total number of pupils to be provided for.	Number of schools required.	Number of teachers required including casualties.	Non-recurring cost of buildings and equipments.	Teachers' salary.	Contingencies.	Total.	Earnings.
1	2	3	4	5	6	7	8	9	10	11	12
1st year	16	14,000	3,000	17,000	425	450	Rs. 1,27,500	Rs. 1,08,000	Rs. 20,200	Rs. 1,18,200	Rs. 44,625
2nd year	16—2 grades	28,000	6,000	34,000	425	450	63,750	1,08,000	10,200	1,18,200	2,52,875
	32—1 grade	28,000	6,000	34,000	850	900	2,55,000	2,16,000	21,400	2,36,400	
	Total	56,000	12,000	68,000	1,275	1,350	3,18,750	3,24,000	30,600	3,54,600	
3rd year	16—3 grades	42,000	9,000	51,000	425	900	63,750	2,16,000	15,300	2,31,300	7,20,750
	32—2 grades	56,000	12,000	68,000	850	900	1,27,500	2,16,000	20,400	2,36,400	
	32—1 grade	28,000	6,000	34,000	850	900	2,55,000	2,16,000	20,400	2,36,400	
	Total	126,000	27,000	153,000	2,125	2,700	4,46,250	6,48,000	56,100	7,04,100	
4th year	16—4 grades	56,000	12,000	68,000	425	900	63,750	2,16,000	15,300	2,31,300	15,94,250
	32—3 grades	84,000	18,000	102,000	850	1,800	1,27,500	4,32,000	30,600	4,62,600	
	32—2 grades	56,000	12,000	68,000	850	900	1,27,500	2,16,000	20,400	2,36,400	
	48—1 grade	42,000	10,000	52,000	1,300	1,375	3,90,000	3,30,000	31,200	3,61,200	
	Total	238,000	52,000	290,000	3,425	4,975	7,08,750	11,94,000	97,500	12,91,500	

Year.	Number of thanas taken in programme.	3	4	5	6	Number of teachers required including casualties.	Non-recurring cost of buildings and equipments.	Teachers' salary.	Contingencies.	Total.	Earnings.	
1	2					7	8	9	10	11	12	
5th year	16-5 grades	70,000	15,000	85,000	425	1,350	63,750	Rs. 4,05,000	Rs. 20,400	Rs. 4,25,400	29,92,500	Rs.
	32-4 grades	112,000	24,000	136,000	850	1,800	1,27,500	4,32,000	30,600	4,62,600		
	32-3 grades	84,000	18,000	102,000	850	1,800	1,27,500	4,32,000	30,600	4,62,600		
	48-2 grades	84,000	20,000	104,000	1,300	1,375	1,95,000	3,30,000	31,200	3,61,200		
	48-1 grade	42,000	12,000	54,000	1,350	1,430	4,05,000	3,43,200	32,400	3,75,600		
	Total	392,000	89,000	481,000	4,775	7,755	9,18,750	19,42,200	1,45,200	20,87,400		
6th year	10-6 grades	84,000	15,000	99,000	425	2,200	63,750	6,60,000	25,500	6,85,500	48,32,500	Rs.
	32-5 grades	140,000	30,000	170,000	850	2,700	1,27,500	8,10,000	40,800	8,50,800		
	32-4 grades	112,000	24,000	136,000	850	1,800	1,27,500	4,32,000	30,600	4,62,600		
	48-3 grades	126,000	30,000	156,000	1,300	2,750	1,95,000	6,60,000	46,800	7,06,800		
	48-2 grades	84,000	24,000	108,000	1,350	1,430	2,02,500	3,43,200	32,400	3,75,600		
	48-1 grade	42,000	14,000	56,000	1,400	1,490	4,20,000	3,57,600	33,600	3,91,200		
	Total	588,000	137,000	725,000	6,175	12,370	11,36,250	32,62,800	2,09,700	34,72,500		

Year.	Number of thanas taken in programme.	Number of boys provided for.	Number of girls provided for.	Total number of pupils to be provided for.	Number of schools required.	Number of teachers required including casualties.	Non-recurring cost of buildings and equipments.	Teachers' salary.	Contingencies.	Total.	Earnings.
1	2	3	4	5	6	7	8	9	10	11	12
5th year	10-7 grades	98,000	15,000	113,000	425	2,700	63,750	8,10,000	30,600	Rs.	Rs.
	32-6 grades	168,000	30,000	198,000	850	4,500	1,27,500	13,50,000	51,000	14,01,000	71,32,875
	32-5 grades	140,000	30,000	170,000	850	2,700	1,27,500	8,10,000	40,800	8,50,800	
	48-4 grades	168,000	40,000	208,000	1,300	2,750	1,95,000	6,60,000	46,800	7,06,800	
	48-3 grades	128,000	36,000	162,000	1,350	2,860	2,02,500	6,86,400	48,600	7,35,000	
	48-2 grades	84,000	28,000	112,000	1,400	1,490	2,10,000	3,57,600	33,600	3,91,200	
	48-1 grade	42,000	15,000	57,000	1,425	1,510	4,27,500	3,62,400	34,200	3,96,600	
	Total	826,000	194,000	1,020,000	7,900	18,510	13,53,750	50,38,400	2,85,600	53,22,000	
6th year	16-7 grades	98,000	15,000	113,000	425	2,700	..	8,10,000	30,600	8,40,600	97,62,625
	32-7 grades	196,000	30,000	226,000	850	5,400	1,27,500	16,20,000	61,200	16,81,200	
	32-6 grades	168,000	30,000	198,000	850	4,500	1,27,500	13,50,000	51,000	14,01,000	
	48-5 grades	210,000	50,000	260,000	1,300	4,150	1,95,000	12,45,000	62,400	13,07,400	
	48-4 grades	168,000	48,000	216,000	1,350	2,860	2,02,500	6,86,400	48,600	7,35,000	
	48-3 grades	126,000	42,000	168,000	1,400	2,980	2,10,000	7,15,200	50,400	7,65,600	
	48-2 grades	84,000	30,000	114,000	1,425	1,510	2,13,750	3,62,400	34,200	3,96,600	
	48-1 grade	42,000	16,000	58,000	1,450	1,540	4,35,000	3,69,600	34,800	4,04,400	
	Total	1,092,000	261,000	1,353,000	9,050	25,640	15,11,250	71,58,600	3,73,200	75,31,800	

Year.	Number of thanas taken in programme.	Number of boys to be provided for.	Number of girls to be provided for.	Total number of pupils to be provided for.	Number of schools required.	Number of teachers required including casualties.	Non-recurring cost of buildings and equipments.	Teachers' salary.	Contingencies.	Total.	Earnings.
1	2	3	4	5	6	7	8	9	10	11	12
9th year	16-7 grades	98,000	15,000	113,000	425	2,700	..	Rs. 8,10,000	Rs. 30,600	Rs. 8,40,600	1,25,45,125
	32-7 grades	196,000	30,000	226,000	850	5,400	..	16,20,000	61,200	16,81,200	
	32-7 grades	196,000	30,000	226,000	850	5,400	1,27,500	16,20,000	61,200	16,81,200	
	48-6 grades	252,000	50,000	302,000	1,300	6,900	1,95,000	20,70,000	78,000	21,48,000	
	48-5 grades	210,000	60,000	270,000	1,350	4,300	2,02,500	12,90,000	64,800	13,54,800	
	48-4 grades	168,000	56,000	224,000	1,400	2,980	2,10,000	7,15,200	50,400	7,65,600	
	48-3 grades	126,000	45,000	171,000	1,425	3,020	2,13,750	7,24,800	51,300	7,73,700	
	48-2 grades	84,000	32,000	116,000	1,450	1,540	2,17,500	3,69,600	34,800	4,04,400	
	48-1 grade	42,000	17,000	59,000	1,475	1,570	4,42,500	2,76,800	35,400	4,12,200	
	Total	1,372,000	335,000	1,707,000	10,525	33,800	16,08,750	95,94,000	4,67,700	1,00,61,700	
10th year	16-7 grades	98,000	15,000	113,000	425	2,700	..	Rs. 8,10,000	Rs. 30,600	Rs. 8,40,600	1,54,16,125
	32-7 grades	196,000	30,000	226,000	850	5,400	..	16,20,000	61,200	16,81,200	
	32-7 grades	196,000	30,000	226,000	850	5,400	..	16,20,000	61,200	16,81,200	
	48-7 grades	294,000	50,000	344,000	1,300	8,270	1,95,000	24,81,000	93,600	25,74,600	
	48-6 grades	252,000	60,000	312,000	1,350	7,150	2,02,500	21,45,000	81,000	22,26,000	
	48-5 grades	210,000	70,000	280,000	1,400	4,450	2,10,000	13,35,000	67,200	14,02,200	
	48-4 grades	168,000	60,000	228,000	1,425	3,070	2,13,750	7,24,800	51,300	7,73,700	
	48-3 grades	126,000	48,000	174,000	1,450	3,080	2,17,500	7,39,200	52,200	7,91,400	
	48-2 grades	84,000	34,000	118,000	1,475	1,570	2,21,250	3,76,800	35,400	4,12,200	
	82-1 grade	28,000	12,000	40,000	1,000	1,060	3,90,000	2,54,400	24,000	2,73,400	
	Total	1,652,000	409,000	2,061,000	11,525	42,090	15,60,000	1,21,03,800	5,57,700	1,26,61,500	

Year.	Number of thanas taken in programme.	Number of boys to be provided for.	Number of girls to be provided for.	Total number of pupils to be provided for.	Number of schools required.	Number of teachers including casualties.	Non-recurring cost of buildings and equipments.	Teachers' salary.	Contingencies.	Total.	Earnings.
1	2	3	4	5	6	7	8	9	10	11	12
11th year	128—7 grades	784,000	125,000	909,000	3,425	21,770	..	Rs. 65,31,000	Rs. 2,46,600	Rs. 67,77,890	Rs.
	48—7 grades	294,000	60,000	354,000	1,350	8,590	2,02,500	25,77,000	97,200	26,74,200	
	48—6 grades	252,000	70,000	322,000	1,400	7,420	2,10,000	22,26,000	84,000	23,10,000	
	48—5 grades	210,000	75,000	285,000	1,425	4,535	2,13,750	13,60,500	68,400	14,28,900	1,80,81,250
	48—4 grades	168,000	64,000	232,000	1,450	3,090	2,17,500	7,39,200	52,200	7,91,400	
	48—3 grades	126,000	51,000	177,000	1,475	3,140	2,21,250	7,53,600	53,100	8,06,700	
	32—2 grades	56,000	24,000	80,000	1,000	1,060	1,50,000	2,54,400	24,000	2,78,400	
	Total	1,890,000	469,000	2,359,000	11,525	49,595	12,15,000	1,44,41,700	6,25,500	1,50,67,200	
12th year	176—7 grades	1,078,000	185,000	1,263,000	4,775	30,360	..	91,08,000	3,43,800	94,51,800	
	48—7 grades	204,000	70,000	274,000	1,400	8,910	2,10,000	26,73,000	1,00,800	27,73,800	
	48—6 grades	252,000	75,000	327,000	1,425	7,550	2,13,750	22,65,000	85,500	23,50,500	
	48—5 grades	210,000	80,000	290,000	1,450	4,620	2,17,500	13,86,000	69,600	14,55,600	2,03,26,000
	48—4 grades	168,000	68,000	236,000	1,475	3,140	2,21,250	7,53,600	53,100	8,06,700	
	32—3 grades	84,000	36,000	120,000	1,000	2,120	1,50,000	5,08,800	36,000	5,44,800	
	Total	2,086,000	514,000	2,600,000	11,525	56,700	10,12,500	1,66,94,400	6,88,800	1,73,83,200	

Year.	Number of thanas taken in programme.	Number of boys to be provided for.	Number of girls to be provided for.	Total number of pupils to be provided for.	Number of schools required.	Number of teachers including casualties.	Non-recurring cost of buildings and equipments.	Teachers' salary.	Contingencies.	Total.	Earnings.
1	2	3	4	5	6	7	8	9	10	11	12
18th year	224-7 grades	1,372,000	255,000	1,627,000	6,175	39,270	..	1,17,81,000	4,44,800	1,27,25,600	Rs.
	48-7 grades	294,000	75,000	369,000	1,425	9,060	2,13,750	27,18,000	1,02,600	28,20,600	
	48-6 grades	252,000	80,000	332,000	1,450	7,685	2,17,500	23,05,500	87,000	23,92,500	2,20,14,250
	48-5 grades	210,000	85,000	295,000	1,475	4,690	2,21,250	14,07,000	70,800	14,77,800	
	32-4 grades	112,000	48,000	160,000	1,000	2,120	1,50,000	5,08,800	36,000	5,44,800	
	Total	2,240,000	543,000	2,783,000	11,525	62,825	8,02,500	1,87,20,300	7,41,000	1,94,61,300	
14th year	272-7 grades	1,666,000	330,000	1,996,000	7,600	48,330	..	1,44,99,000	5,47,200	1,50,46,200	
	48-7 grades	294,000	80,000	374,000	1,450	9,225	2,17,500	27,67,500	1,04,400	28,71,900	2,30,09,250
	48-6 grades	252,000	85,000	337,000	1,475	7,825	2,21,250	23,47,500	88,500	24,36,000	
	32-5 grades	140,000	60,000	200,000	1,000	3,180	1,50,000	9,54,000	48,000	10,02,000	
	Total	2,352,000	555,000	2,907,000	11,525	68,560	5,88,750	2,05,68,000	7,88,100	2,13,56,100	
15th year	320-7 grades	1,960,000	410,000	2,370,000	9,050	57,555	..	1,72,66,500	6,51,600	1,78,18,100	
	48-7 grades	294,000	85,000	379,000	1,475	9,380	2,21,250	28,14,000	1,06,200	29,20,200	2,34,46,750
	32-6 grades	168,000	60,000	228,000	1,000	5,300	1,50,000	15,90,000	60,000	16,50,000	
	Total	2,422,000	555,000	2,977,000	11,525	72,235	3,71,250	2,16,70,500	8,17,800	2,24,88,300	
16th year	368-7 grades	2,254,000	495,000	2,749,000	10,525	66,935	..	2,00,80,500	7,57,800	2,08,38,300	2,36,21,750
	32-7 grades	196,000	60,000	256,000	1,000	6,360	1,50,000	19,08,000	72,000	19,80,000	
	Total	2,450,000	555,000	3,005,000	11,525	73,295	1,50,000	2,19,88,500	8,29,800	2,28,18,300	

CHAPTER XIII.

SUMMARY OF RECOMMENDATIONS.

Having surveyed the problem as a whole, and analysed it in its component parts, and having suggested appropriate measures in connection with each, we shall now proceed to summarise in one place our recommendations.

Our recommendations may be divided into two main categories,—one of a more abiding character and concerned with governing principles; the other of a more immediate nature which we have put forward by way of concrete proposals for being given effect to forthwith. We realise the force of practical difficulties, like those caused by financial considerations, or by social customs barring the way to the programme of national reconstruction, in so far as it is embodied in our programme of educational reorganisation. There is, therefore, the danger of our entire programme being jeopardised, if we overlooked or ignored altogether these considerations, and insisted absolutely on an unadulterated and immediate acceptance of our ideal *in toto*.

We have, accordingly, made our recommendations so that a considerable portion of the programme proposed by us can be immediately adopted and carried into effect, without losing sight of the main ideal to attain which unremitting efforts should be made. Our recommendations have not been conceived without any regard to practical difficulties; and so can be given effect to at least in respect of such portions of those recommendations as are immediately practicable.

1. Every child of school-going age in the Province must, within a given period be provided with the basic minimum of education, as outlined in the main body of our Report. For this purpose we take the school-going age to commence at 7 years complete (or in some cases 6) and ending with 14 years complete (or in some cases 13). This education for seven years is indispensable for providing the basic minimum of knowledge, information, and mental and physical development to every child coming within its scope. This programme is to be enforced gradually on the basis of compulsion; that is to say, within this age limit, the parents of every child of school-going age must be made to provide their children with the basic

minimum of education as defined in this Report. This education in public institutions, or those maintained by public aid, shall be free of all costs to the parents or guardians.

2. This programme of compulsory Basic Education is to be given effect to progressively over a period of 10 years from the date of its inception in the case of boys and of 20 in the case of girls. Compulsion would accordingly not apply, to start with, in the case of girls; or would apply with considerable reservations. If the programme is given effect to so that within a period of 10 years every boy of school-going age is brought to school, it will take 16 years for all the boys and 26 years for all the girls to receive the full Basic Education of seven years.

3. This programme, if given effect to, would entail the provision of additional institutions, reorganisation of the existing ones; and of additional teachers to educate nearly 52½ lakhs of children throughout the Province. We recognize that with our available resources and allowing for possible increase in the same, it will not be possible to attain the objective all at once. We accordingly recommend a progressive enforcement of the programme of universal and compulsory education, as mentioned in the preceding paragraph. Government will be authorised by law to extend year after year the number of compulsion areas, or widen the classes of the community to whom compulsion is applied, in accordance with the ways and means at the disposal of Government.

4. In cases where parents desire to commence their children's education earlier, they may be permitted to commence at six years complete, and end at 13 years complete, unless they are transferred to some secondary school.

5. This education is to be carried out through some form of vocational or purposeful activity, thereby replacing the present method of passive receptivity in the child to be educated, by enlisting the child's interest and co-operation in the work of its education. In this connection, we have considered the kind of activities which would be of educative character, and through the medium of which all requisite education can be easily provided.

6. In recommending that this education is to commence at 7 (or 6) years complete, we have not overlooked altogether the problem of pre-school education. The process commences almost from the birth of the child. The responsibility, therefore, rests in no small measure upon the parents and guardians

to attend to the bringing up of their children in the early years before going to school. We recognize, however, that not all parents are competent to provide this training or upbringing for their children, and some cannot even afford the time and effort needed for it. We also recognize the difficulties, financial and others, in the way of the Government undertaking this responsibility; and accordingly recommend that—

- (a) in some selected industrial centres with a large population, model institutions like nurseries, creches, kinder-gartens, etc., for the education of children between 3 and 6 years of age may be established either by Government, or through the agency of factory-owners.
- (b) Social Service Associations specialising in this matter should, likewise, be aided and subsidised to carry on their work in this department.
- (c) Government must provide the teachers, duly trained in this part of the work, so as to help in the work of such institutions. The necessary training centres for such teachers should be provided by the same agency.

7. For the proper equipment of these pre-school institutions, we recommend that locally made apparatus or appliances should be devised and produced in preference to the costly foreign patents of this kind. We recognize the great value of women teachers for pre-school institutions, and the earlier classes of the Basic Schools. We note at the same time the immense dearth of women teachers, qualified or otherwise, and accordingly recommend that intensive effort be made to attract women to this profession by every possible inducement, and to train them so that in course of time most of the work of teaching in pre-school institutions and in the early grades of the Basic School may be taken up by women. Incidentally, we may note that this would help to solve some of our social problems like that presented by the enforced and life long widowhood.

8. We have briefly considered the various occupations and craft activities suitable for women. Training may be given in these in the Basic Schools to girls. This may necessitate the institution of separate schools for girls, or at least separate courses more in accordance with the needs of girl students. We have suggested several ways in which we could combine economy with convenience for giving

effect to the above, e.g., by utilising the same school building at different times for boys and for girls, or having separate schools by combining several units, so as to furnish strength sufficient to maintain an institution of this kind efficiently.

9. In particular we desire equal education for boys and girls, in the same institution up to 10 years of age. Every means should accordingly be adopted to encourage co-education up to this period. In view of the prevailing social customs, however, and to secure due economy, we would not disturb such separate institutions for girls as are already in existence. We also recognize the advisability of separate schools for educational reasons between the ages of 11 and 14.

10. We, further, recognize the force of social usage and the prevailing ideas so far as to relax the principle of compulsion in regard to girls after 12 years of age. Parents, therefore, who desire to remove their girls from school after 12 years will be allowed to do so. Those, however, who continue at school will, of course, be educated free of cost up to the completion of this Basic Education; and may have separate institutions for completing their education.

11. We have incidentally noted the grave question regarding religious instruction in schools. In institutions maintained at public expense, no religious instruction should be provided under the authority and control of the State as part of the regular work in such schools. Provision of religious instruction is, the Committee believe, primarily the responsibility of the parents or of the particular community which desires it. Facilities, however, which are now available in public schools for this purpose may be continued.

12. Though the programme of the basic minimum of compulsory education is conceived as one continuous whole, the Committee recommend that those who desire or are particularly suited to continue their education beyond the basic minimum stage, and would like to take to secondary education at the earliest convenient moment, may be permitted to branch off to secondary schools at 12 years of age, or after completing the 5th grade in the Basic School. This will, of course, not stop their education; they would still continue it in the more specialised secondary schools. Girls who are found suitable for this purpose should be afforded every facility, encouragement, and inducement to continue their education in the

secondary stage. The same may also apply to children of backward communities.

13. Every attention should be paid to the health and proper physical development of children at school. Regular physical training, with appropriate exercises, should, therefore, be made a common feature of school work. These exercises, games and sports should be selected with a view to their body-building value, and inculcating habits of team work and discipline. We do not consider it necessary to have such games and sports as would involve the importation of costly foreign apparatus.

14. Medical inspection of school children and their treatment must be made a regular feature of school activities. Teachers should be particularly required to attend to proper hygienic habits being formed amongst their pupils, and regular attention should be paid by the teacher to the eyes, teeth and general cleanliness. To make this medical inspection and treatment as economical, as thorough and efficient as possible, we recommend that in the training courses for teachers, a knowledge of health and hygiene should be made an important subject.

15. We think considerable scope is available for the utilisation of indigenous drugs and local skill for attending satisfactorily to this part of the school work.

16. Instruction in sex matters should be provided in the higher classes of Basic Schools by senior teachers. Such instruction to be useful and unobjectionable must be given in separate classes or schools, and in the last two years of the Basic School. Pending the availability of properly trained women teachers in requisite numbers to teach this subject, senior men teachers of staid and respectable character should be appointed to do this work. Not too much emphasis need be laid on this subject though it is equally advisable not to ignore it altogether. The Committee would recommend that emphasis be laid on the value of continence or self-control in such matters as, for instance, the Indian institution of *Brahmacharya*.

17. The average school year should consist of 250 days with a permissible margin of variation of 5 per cent at either end. The normal school day should have working hours according to local convenience; but the Committee would prefer one single session of about 5 hours in the morning.

There must be a weekly holiday in every school, and, in addition to the usual holiday in each locality, there should be at least one common national holiday in which all communities and classes of teachers and pupils should join. Longer holidays should be utilised to serve educational activities, and emphasise the social character of the new education, by such means as the institution of a *Labour Week*, for example, in which not only the school population, but also the entire community may participate. Vacations should be utilised to permit travelling preferably on foot to places of interest, and with a view to bring about better understanding between the various parts of the Province. On all such holiday tours, teachers should join the pupils as far as possible.

18. The lack of properly qualified teachers is a great handicap. Every effort should, therefore, be made to make up this deficiency. We recommend that training schools, which will in due course have three years' courses, be established in suitable numbers throughout the Province where regular training for all those making teaching a profession should be provided. Economy in this regard may be obtained by converting most of the present zila schools into training schools and utilising the present lower classes IV—VII of these institutions as practising schools attached thereto. For those already in the profession, whether trained or otherwise, refresher courses should be instituted which should be taken advantage of at least 3 or 4 times in the course of the normal working life of a teacher. In actual work the lower the grade or class in a school, the more senior and experienced should be the teacher attending to it. Special attraction will have to be afforded to women to adopt this career to meet the great lack in this regard.

19. The Committee recommend that the education reorganisation of the Province should be in charge of the Provincial Board of Education consisting of 17 members presided over by the Education Minister. The Director of Education should be *ex-officio* member and Secretary of the Council, and should also act as Secretary to Government in the Education Department. The Vice-Chancellor of the Patna University should also be an *ex-officio* member of the Council. Four members should be elected by the Legislature, one Inspector of Schools nominated by Government, one member elected by Headmasters of Basic Schools, one by those of the secondary schools, one Inspectress of Schools, two representatives of district boards and one of municipalities, and four nominated

by the Minister of whom one at least should be a Muslim. This Council should have the control, supervision and management of education in the Province. It would also administer funds devoted to education.

20. The actual authority responsible for day to day administration would be local bodies, the authority chiefly responsible to the Provincial Board of Education will be the district board in districts and the municipal board in towns. This body will set up an education committee of its own, constituted so as to have representatives of local areas within the district, members of the district board, and such other persons as are specially experienced in educational matters in the district. The District Inspector of Schools would be an *ex-officio* member and secretary of this education committee. It will manage those educational institutions which are under the direct charge of the district; supervise, control and help financially the subordinate local bodies which have educational institutions of their own; audit their accounts from time to time, inspect their institutions, and report to Government on such matters in which power is reserved to Government to give final orders.

21. The funds for the conduct and maintenance of educational institutions within each district will be made over on the advice of the Provincial Council to each district by Government. These may be supplemented by such resources of the district or local bodies as may be available in each case. The administration of this fund will be in the charge of such bodies as are primarily connected with the conduct and maintenance of educational institutions within their jurisdiction. But the supervision over proper administration of these funds by means of audit and account as well as by the general controlling power will be entrusted to the district board exercising its authority through the district education committee. In towns, the municipal board through its education committee will undertake direct supervision and conduct the municipal education, and administer funds in that behalf.

22. Powers of initial recognition and occasional inspection of educational institutions within the Province will be reserved to Government.

23. The Educational Services in the Province should also be re-organised with definite minimum as well as maximum of salaries in all grades. Teachers who make education a life-long career should be recruited from amongst those passing

successfully a public test for the purpose. They should be guaranteed such rights as are indispensable for the due discharge of their duties by the fundamental Code of Education. Their discipline as also their promotions, transfers and maintenance after retirement should be provided for by the same Code. Powers of appeal should be reserved to Government in case of dispute between individual teachers and the authority employing them or their official superiors.

24. These provisions would help to guard a teacher against political influence or other forms of corruptions which are commonly feared in a democratic government.

25. For the breaking down of illiteracy in the adult population, and for providing a certain amount of education for the present generation of adults, the Committee recommend that some form of social service conscription be adopted to provide the required number of teachers for this purpose. The radio as well as cinema should also be utilised to aid in this programme.

26. Special institutions will have to be maintained for the defective, backward, or sub-normal children.

27. The frequency of examinations must be reduced, and their mechanical character replaced by some kind of suitable, intelligence and group tests. There should be one public test at the point where those desiring to branch off into secondary education may be tested to determine their capacity as well as aptitude for such higher education, and be permitted to do so if found suitable.

28. A public test may be held at the end of the period of Basic Education, not only to check the proficiency obtained, but also to evaluate the general character of the work done by each candidate, and the impression formed by the teachers of their work. We would suggest not more than $1/3$ rd of the total value in the test be assigned to examination questions put to the candidates while $2/3$ rds of the value be attached to the general impression of the teachers and the character of the work done by each candidate.

29. Inspection should be carried out by Government inspectors, who should be specially qualified in the work of inspection and carrying out of intelligence tests. Such tests should be carried out every year and should give due importance, as indicated above, not only to the answers of each candidate to the set questions but also to the general work

done by him during the period, and the impression formed by the teachers. We recommend that suitable people should, if necessary, be deputed to foreign countries, like America, where the nature and form and the method of administering such intelligence tests is highly developed. Career-teachers should be appointed for a group of Basic Schools in towns and in such of the rural parts as may find it possible to do so.

30. The Committee estimate that carrying out of these proposals will entail a total expenditure of about Rs. 3.60 crores per annum when the entire scheme of compulsory universal Basic Education will be in operation. Allowing for the present expenditure on primary and middle schools, which would be merged in the Basic Schools as proposed here, as also for other economies and retrenchment wherever possible, the Committee consider a net additional burden of Rs. 2.50 crores per annum will have to be borne if this programme is to be carried out. The Committee have, however, recommended a progressive carrying out of their proposals, spread over 10 years in the case of boys and 20 years in the case of girls. Accordingly, the annual increase of expenditure under this head will be at the rate, roughly, of about Rs. 25 lakhs. The Committee have deferred consideration of the financial ways and means for giving effect to their proposals until the reference made to them has been more fully considered and reported upon. Meanwhile the Committee have also put forward a tentative programme for immediate adoption to give a concrete scheme for carrying the most urgent of these proposals into effect.

K. T. SHAH	...	...	(Chairman).
SACHCHIDANANDA SINHA			Member.
RAJENDRA PRASAD	...	...	Do.
J. S. ARMOUR	...	...	Do.
A. S. KHAN			
(Principal, Science College, Patna)			Do.
ZAKIR HUSSAIN	...	...	Do.
GHULAMUS-SAIYIDAIN	...	...	Do.
K. D. NAG	...	...	Do.
BADRINATH VARMA	...	...	Do.
*AMARNATH JHA	...	...	Do.
B. MUKHARJI	...	...	Member-Secretary.

*Signed subject to minute of dissent attached.

MINUTE OF DISSENT.

I regret that owing to a last-minute change in the dates of the meeting from February to March, 1940, I was not able to attend it. I regret it all the more as I find that a decision arrived at at a general meeting of the full Committee on March 17, 1939, is now being reversed. The decision to allow Bengalis and Maithils to use their mother-tongues as media of Basic instruction was made when I was present. Subsequently, about a month later, on April 13, Dr. Rajendra Prasad wrote to me as follows :—

“ Please refer to page 46, paragraph 112 of the Primary Education Report. Maithils are recognised as a separate cultural entity like Bengalis. This is considered to be opposed to public opinion and is likely to be resented strongly in the Province I am afraid, it is likely to stir a hornet's nest and I, therefore, request you to agree to drop it..... In case you insist, the Secretary will add a note on your behalf, otherwise I suggest that reference to Maithili be dropped.”

On April 15, I replied as follows :—

“ I very much regret that my enforced absence on the last day of the Committee prevented a personal discussion which would have made the position clear. As it is, the question was discussed at such a considerable length at the meeting that it is not fair that the agreed report should now be sought to be amended. The whole question is whether the Committee is really in earnest in its profession that every child has a right to be educated through the mother-tongue. If that position is maintained by the Committee—and I take it that that is the very foundation of the entire scheme—then a Maithil child has a clear right to demand that he should be taught in his mother-tongue which does not happen to be Hindi and is, indeed, more akin to Bengali than to Hindi. There is no question of antagonism or rivalry. The only point is the language spoken by the Maithils at home and whether that language has a literature. On both these points

the position of Maithili is unassailable. I do not really understand why, if Hindi is to be the common medium of instruction in the Secondary Schools, any one should anticipate rivalry with it on the part of languages that will only be used in the Basic Schools. I thought it was understood at the meeting that a clear indication would be given to everyone to the effect that Hindi alone would be the medium of instruction in Secondary Schools, and that those whose education was not intended to end with the Basic School should be told that it would be to their advantage to take Hindi.".....

I sent copies of my letter to the other members of the Committee who were present on that day, and the Chairman wrote to me on June 13 :—" The remarks that the Committee had made, on your suggestion, in regard to Maithili remain as you had suggested them, and Dr. Rajendra Prasad as well as Dr. Sinha may add a brief note at the bottom of the page or at the end of the Report." I was content. It was, therefore, a matter of surprise to me to get from the Chairman a letter, dated March 5, 1940, communicating to me the decision of the Committee to modify the Report previously adopted and signed by all the members. The Committee has changed the Report and permitted me to append a Minute of Dissent. I write this note without hesitation but not without regret at the change of the views of the Committee.

Educationally, the proposition cannot be contested that it is only right and proper that a child should receive instruction in its own mother-tongue. It has been one of the serious charges against the modern Indian educational system that a foreign language has been the medium of instruction. The use of the mother-tongue has been properly emphasised in the Zakir Hussain Report. The Committee of the Central Advisory Board of Education, presided over by the Hon'ble Mr. B. G. Kher, and consisting among others of the Hon'ble Dr. Syed Mahmud, the Hon'ble Pandit R. S. Shukla, Rajkumari Amrit Kaur, Dr. Ziauddin Ahmad, Dr. Zakir Hussain, and the Educational Commissioner with the Government of India, in its report of June 1938, recommended as follows :—

" The Wardha Scheme lays down that the medium of instruction shall be the mother-tongue, that is, the vernacular of the pupils. The Abbott-Wood

Report makes the same recommendation and few will be found to disagree. The Committee unanimously approve, though they are aware that in certain provinces a difficulty might arise as more than one vernacular may be spoken. In making this recommendation the Committee wish to emphasise that the term "vernacular" connotes the literary language and not a dialect."

The Bihar Education Reorganisation Committee states also :—

"It is an accepted principle of proper education that all knowledge should be imparted through the medium of the mother-tongue. We endorse it completely and would admit of few exceptions."

These being the opinions of all who have anything to do with education; why has the Committee denied to the Maithil child the right of receiving instruction in his mother-tongue? It is interesting to examine the arguments of two colleagues whose weighty opinion has persuaded the Committee to modify its views. Dr. Rajendra Prasad refers to Maithili as a form of Hindi and speaks of Hindi as the written language of Bihar. Dr. Sachchidananda Sinha, on the other hand, speaks of the Bihari language and says that "Hindustani" far from being the language of the vast bulk of the people of Bihar, is a foreign idiom. The use of Hindi, according to him, is as much a matter of convenience in Bihar as the use of English for inter-provincial conversation and official work throughout the length and breadth of India. These two gentlemen, differing as they do radically on the question whether Hindi is the language of Bihar, are agreed in refusing to Maithili any position in the scheme of Basic Education. Why?

Dr. Sinha apprehends that if Maithils are granted the opportunity of receiving education in Maithili, there will be evoked an immediate agitation by the Bhojpuri-speaking and the Magahi-speaking peoples that their children also should receive education in their mother-tongue, and not in Hindustani. Here, one might refer again to the Kher Committee report which states that the term "vernacular" connotes the literary language and not a dialect. Magahi and Bhojpuri are not literary languages and they are ruled out.

Maithili is a literary language. While Dr. Rajendra Prasad speaks of Hindi as the written language of practically

the whole of northern half of the Indian peninsula, even he is forced to concede that "Maithili has undoubtedly some literature of its own which may be and is actually studied and cultivated." It is a fact which needs to be strongly stressed that the Maithili script is not the Devanagri script. There are manuscripts in the Maithili script belonging to the tenth and eleventh centuries and since then the script has been in continuous use. Even to-day this is the script used by us. It is more akin to Bengali than to Nagri. Mithila has always had a cultural importance. Its existence as distinct unit is mentioned even in the Puranas. According to the figures of the 1921 census, 14,279,000 persons speak the Maithili language. Maithili literary works began to be produced as early as the eleventh century, indeed some poems by the Siddhas of the eighth and ninth centuries are still in existence. An elaborate book of the thirteenth century, Varnaratnakara by Jyotirishwara Thakur has recently been published; another by Vidyapati, entitled Kirtilata, belongs to the fourteenth century. The prominent literary figures of the 15th century are Chandishvar, Ruchipati, and Jagaddhara. Mr. R. C. Dutt says of Chandidas that his poetry was inspired by Vidyapati and other poets of Mithila. Dr. Suniti Kumar Chatterji in his address to the Fourth Oriental Conference said:—"Bengali scholars would come back home after finishing their studies in Mithila, not only with Sanskrit learning in their head, but also with Maithili songs on their lips—songs of Vidyapati, and also probably by his predecessors and his successors. These were adapted by the Bengali people. The Maithili lyric similarly naturalised itself in Assam and in Orissa in the 15th century." Maithili is referred to in 1771 in "Alphabetum Brahmanicum". Colebrooke, in Volume VII of the "Asiatic Researches" describes in 1801 Maithili as a distinct language. In 1840 Maithili is referred to by Aime Martin in his "Letters edifiantes at curicuses"; in 1875 Fallon in the *Indian Antiquary* has a discourse on Maithili; Sir George Grierson, the leading authority on Indian languages, referred to Maithili at length in Volume V of his "Linguistic Survey". Dr. Hoernle in his "Grammar of Eastern Hindi" demonstrates that Maithili is not a form of Hindi. Dr. Probodh Chandra Bagchi states that the language of the higher classes in Nepal and their literary language up to the 18th century was Maithili. There is record of Maithili books written in Nepal until as recently as 1738, and any number of them were written in the sixteenth and seventeenth centuries.

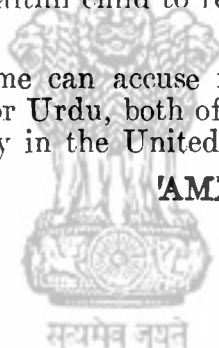
Songs, lyrics, dramas, works on ritual, works on music and prosody, historical descriptions of battles—all these form part of Maithili Literature. There are even Marsias in Maithili—four specimens of which are quoted in Grierson's "Maithil Chrestomathy". Novels, short stories, handbooks on Hindu philosophy, grammar, abridgements of Ramayana and Mahabharat, plays on social subjects, mathematics, biography, have been produced in Maithili and published.

Why is it, then, that a language so widely spoken and with such a continuous and full literature is being denied its rightful place in the reorganised scheme of education? Sir George Grierson speaks of "Maithili rules of prosody" and "rules of Maithili Grammar"; the Braj Bhasha rules of prosody (based on Pingala) do not apply to Maithili verse, nor those of Chhamdodipika. I deeply deplore that an attempt should be made to destroy this priceless heritage of a minority that cannot possibly admit that Hindi or Hindustani is its vernacular, and I fervently hope that those who may be responsible for reorganising basic education will recognise the inalienable right of the Maithil child to receive education in its own mother-tongue.

No one who knows me can accuse me of indifference or hostility either to Hindi or Urdu, both of which I have striven to serve in an humble way in the United Provinces.

March 12, 1940.

'AMARNATH JHA.





सत्यमेव जयते

APPENDIX I.

No. 18-E.R.C.

GOVERNMENT OF BIHAR.

OFFICE OF THE EDUCATION REORGANISATION COMMITTEE, BIHAR.

FROM

B. MUKHARJI, Esq., M.A., B.L. (CAL.), M.A.
(EDN.) (LEEDS), MEMBER-JOINT-SECRETARY OF
THE EDUCATION REORGANISATION
COMMITTEE, BIHAR,

To

ALL MEMBERS OF THE LEGISLATIVE
COUNCIL AND LEGISLATIVE ASSEMBLY,
ALL MEMBERS OF THE PATNA UNIVERSITY
SENATE,
THE CHAIRMEN OF ALL DISTRICT BOARDS AND
MUNICIPALITIES AND OF THE DISTRICT
COMMITTEE IN THE SANTAL PARGANAS,
ALL MEMBERS OF THE BOARD OF SECONDARY
EDUCATION,
PRINCIPALS OF ALL COLLEGES,
ALL INSPECTORS OF SCHOOLS,
THE INSPECTRESS OF SCHOOLS,
ALL DISTRICT INSPECTORS AND DISTRICT INSPEC-
TRESSES OF SCHOOLS,
THE SUPERINTENDENTS OF SANSKRIT AND
ISLAMIC STUDIES AND OF THE HAZARIBAGH
REFORMATORY SCHOOL,
HEADMASTERS OF ALL HIGH SCHOOLS,
HEADMISTRESSES OF ALL GIRLS' HIGH SCHOOLS,
LADY PRINCIPAL OF THE BANKIPORE GIRLS'
HIGH SCHOOL AND OF THE B. N. R. TRAINING
COLLEGE,
HEADMISTRESSES OF ALL WOMEN TRAINING
CLASSES,
REGISTRAR OF EXAMINATIONS, BIHAR.

Dated Patna, the 18th May 1938.

SIR,

MADAM,

I AM directed to send herewith a copy of the
questionnaire, issued by the Bihar Education Reorganisation

Committee, and shall be grateful if you will assist the Committee with such answers as you may choose to give. The present questionnaire is confined to primary education; it is not meant to be exhaustive: you can deal with any matters relevant to it. Nor are you expected to answer all the questions included therein. It is particularly requested that your reply should reach my office on or before the 15th June 1938.

I have the honour to be,

SIR,

MADAM,

Your most obedient servant,

B. MUKHARJI,

Member-Joint-Secretary.

**BIHAR EDUCATION REORGANISATION
COMMITTEE.**

QUESTIONNAIRE.

PRIMARY EDUCATION.

I.—Educational aims.

1. Should the Province aim at a basic national minimum of compulsory primary education? Is this ideal likely to be unacceptable to large sections of the community? What steps would you take to secure their consent and co-operation?

2. At what age do you think should the education on the above basis commence, at 5 or 6 or 7 with permission to those who would like to start earlier to send their children to school at six complete, but not earlier than that; and why?

II.—Length and character of the course of primary education.

3. What do you consider to be the length of the period necessary to give effect to the principle accepted as the basis of the educational reorganisation in this Province?

4. Should there be any diversion of students to a different type of school during this period? If so, at what stage?

5. How would you give effect to such differentiation?

6. What would be the peculiar features, if any, whereby these special schools mentioned in the preceding questions would resemble or differ from the present day middle or high schools?

7. What steps would you adopt to ensure that this Basic Education is permanently retained by the children receiving it and that there is no stagnation or wastage?

8. Assuming that substantially—

- (a) the curricula now laid down for the primary and middle school stage of education by the present department of public instruction in the Province or (b) the scheme of studies or curricula sketched out in the Zakir Husain Committee report for the corresponding stage of instruction or (c) any other scheme that you may suggest, were to be adopted what is the number of years you consider to be necessary for giving effect to the same?

III.—Dove-tailing of the primary course of education with higher courses and utilisation of existing resources.

9. How far in your opinion is it advisable to insist upon uniformity in the standard of curricula, as well as equipment, of those schools which are designed to cater for the basic minimum of compulsory free universal education as postulated by the Committee? To what extent would such uniformity, if enforced, facilitate specialisation at a later stage?

10. How would you utilise and adapt existing educational resources of the Province in imparting the new system of education? (There are at present 17,695 lower primary schools, 3,082 upper primary schools, 776 middle schools with 18,394 trained primary teachers, 13,276 untrained primary teachers, 2,996 trained middle school teachers and 1,795 untrained middle school teachers. The lower primary schools have generally two-roomed buildings, upper primary schools have three rooms and middle schools have generally as many rooms as they have classes.)

IV.—Pre-school education.

11. What arrangement should, in your opinion, be made for providing any education or training during the period immediately preceding the age at which, under the assumption made above, the child would be admissible to the ordinary Basic School?

12. How far would you leave imparting of such pre-school instruction or training to the parent of each child, and how far would you recommend the provision for such instruction on a provincial scale, as a charge upon the community collectively?

13. Assuming the necessity of making provision for such pre-school instruction, on what lines would you make such provision, and for what length of period?

14. How far do you consider the effects of bringing children of the tenderest years (e.g., between three and six) under institutional life to be desirable?

15. If it is considered not feasible to make adequate provision for pre-school education of children borne in the community on a provincial scale, what classes of society particularly need such provision to be made in their behalf, and for what length of period?

16. Can you give an estimate of the cost of such pre-school education—

(a) for all children of the Province, and

(b) for children of a selected class?

V.—Harmonising primary education with life.

17. It has been said that the existing system of education tends to be divorced from life and, therefore, becomes unreal and uninteresting, and does not produce lasting effects.

What measures would you suggest to remedy this evil with reference to primary education?

18. What changes would you recommend in the courses of instruction, books and educational methods in order to achieve this purpose?

19. How will you seek to relate the whole system of education, including the subjects to be taught, methods, devices, apparatus of teaching, and the teaching personnel to the child's environment?

20. How far in your opinion would the basic minimum of universal education as postulated above meet the requirements of actual life for the large mass of population receiving such education?

VI.—Practical bias in education.

21. The prevailing system of education has been characterized as tending to be unreal, excessively one-sided and literary, and, therefore, useless for the large bulk of the population which receives it.

How would you counteract this tendency of present day education?

22. What changes would you suggest in order to give a practical or utilitarian bias to the mass education of children in the primary stage?

23. How would you guard against the utilitarian aspect of education being overstressed, at the expense of the minimum of general instruction necessary to fit an individual for the responsibilities of intelligent citizenship in a modern State?

VII.—Differentiation between rural and urban areas in regard to the basic minimum of compulsory universal free education.

24. Would you accept the principle that there should be fundamental differentiation in the kind of education given in rural and in urban areas?

25. If the answer to the preceding is in the affirmative, how would you suggest this differentiation should be brought about? In what would the differentiation consist?

26. What subjects would you particularly emphasise, in the curricula designed for rural, and those designed for urban schools? How far would the basic difference in viewpoint affect the selection of such subjects for schools of each category?

27. How far, as a matter of principle, is the maintenance of two distinct classes of schools, each with a separate curriculum and different emphasis on the several subjects taught, likely to affect the progress and well-being of the entire community?

28. To what extent would you suggest different hours and seasons of work in the schools of each of the above named categories? Would you regard the progressive urbanisation of the rural areas, through the bias given to education, a matter to be prevented, or one to be encouraged?

29. What opportunities would you provide for transferring pupils from schools of one type to the other, at any time during the school period? Would you, generally speaking, encourage or discourage such mutual transfers?

30. If you are in favour of such transfers, under what conditions and at what stage should these be effected so as to avoid needless waste of time in the process of the transfer, and facilitate the assimilation of the transferred pupil in the new school?

31. In carrying out such differentiation between rural and urban schools, and their several curricula, would any different apparatus, equipment, or personnel be necessary? Please indicate wherein such differences would be necessary, and why. How would you provide for such differentiated apparatus, equipment and personnel, particularly the last duly trained for the specific purpose?

VIII.—Differentiation in the basic minimum of education provided compulsorily and universally as between boys and girls.

32. Do you accept, in principle, that there should be a differentiation, as between boys and girls, as regards the basic minimum of universal compulsory education?

33. If the answer to the preceding is in the affirmative, on what lines would you advocate the differentiation to be carried out?

34. Would you suggest that the differentiation, if recommended, should be given effect to from the starting point, or at any subsequent stage in the education? If the latter, at what stage would you recommend that such differentiation should commence?

35. How would you guard, if you think it at all necessary, against such differentiation crystallising into a permanent division of the community on the lines of sex differences resulting in a permanent difference in their life and occupations, and their civic position and social status?

36. Would you advise the maintenance of co-education of boys and girls, up to any stage at all? If you do, would you please indicate at what point should co-education cease, if at all?

37. Assuming a distinction is made in the education provided for boys and that provided for girls, would you insist that men alone should teach in boys' schools, and women alone in girls' schools? If not, up to what stage in such education would you allow mixed teaching staffs?

38. How far would you consider the relatively greater paucity of duly qualified women teachers a valid reason to hold over separation of schools for boys and for girls, even assuming that in principle you consider the separation desirable?

IX.—Cost to the people and to the State.

39. How far do you consider it feasible to provide such education as has been contemplated throughout the period regarded as necessary for the compulsory minimum of Basic Education without charging any fee at any time during this period?

40. What do you consider to be the likely cost to the State of providing such education to all children without any fees?

41. What are the items of cost which in your opinion will add most to the expenditure now being incurred for the purpose of primary education in this Province?

42. In which of these items of cost mentioned in answer to the foregoing question is it possible to effect any substantial economies? How would you suggest making such economies in practice?

43. What are the sources from which you would suggest the necessary expenditure be met, after all due economies have been made as regards recurring and non-recurring outlay?

44. To what extent is it possible to substitute payment in kind for payment in cash to the different classes of persons employed in a school?

45. How far would the system of Compulsory Conscription for Social Service, amongst pupils, qualified for the task, between 18 and 25 years of age, result in any economies for carrying out the whole programme, as compared to the existing system of payment for work if applied to the same programme?

What expenses will have to be incurred in organising and maintaining a compulsory service of this kind?

46. How will the compulsory system compare with the present voluntary system in expense and efficiency?

47. How will the Conscripts be trained for teaching the various specialised courses, if any, for different occupations and different groups such as women, rural and urban classes?

48. What legislation would be necessary to give effect to compulsory teaching service?

What will be the effect of such a measure on employment in the teaching profession?

49. What part of expenditure on Conscription could, in your opinion, be passed on to a local body specially organised for giving effect to this programme; even if such transfer of this burden results indirectly in a sort of taxation in kind? (For purposes of illustration, consider the cost of housing, food, and transport of such public servants as items capable of being passed on to a local body organised specially for this purpose.)

50. After allowing for such transfer of burden as indicated in the preceding question, what items of the cost would nevertheless still remain to be borne by the Provincial Government? What do you consider to be the unavoidable and irreducible amount of this cost? From what sources do you suggest the same should be met, in as far as the existing resources of the Province are considered to be insufficient for that purpose?

51. Would you suggest any portion of the cost should be recovered from the work of the pupils themselves?

52. As a matter of principle, do you consider it right that the system of education should be designed from start, so as to recover a part of the cost of educating the pupils from the pupils themselves?

52(a). If you do not agree with the principle, can you suggest some other method of helping towards the financing of Basic Education on a mass scale?

53. What would be the reaction of recovering any portion of the total cost of carrying out such a programme of universal compulsory education free of money cost to the pupils from the work of the pupils themselves upon the economic position of the parents, or the rest of the community? How far would the produce of the pupils' labour merely supplement or compete with the corresponding articles made by professional artisans or workers and with what results, in the common market? Would you suggest any preference being given to the articles produced by the pupils' labour in the purchase of such articles by Government or public bodies for their own requirements?

54. To what extent is such a system applicable to the production of material commodities, such as cloth, or leather goods, or tools and implements for agriculture?

55. How would you organise the account of such indirect payments in kind to be kept and audited in order to get the correct and complete view of the real cost of the programme?

56. Assuming the programme mentioned in the last 3 or 4 questions is carried out successfully, what would be the reaction upon the future of public economy? Do you contemplate a community in the near future which will consist only of artisans, working each on a small scale at his own convenience, with his own tools and with his own raw materials or do you envisage an industrialised community working with modern machinery for large scale production on an organised basis? How would the programme be affected under either of these two conceptions of social reorganisation?

57. What are the possible industries and occupations which can be pursued in schools with a view to finance the cost of education from the labour of pupils? Please give a rough idea of the arts and crafts in your district which might be useful for this purpose.

X.—Organisation.

58. What would you consider to be the changes and readjustments needed in the Department of Public Instruction so as to carry out efficiently the programme of this Basic Education?

59. Would you suggest any aid from the local bodies, if necessary, specially organised for the purpose for dealing with the programme of such education? If such bodies are to be specially organised under the name or style of District Education Committees, could you suggest the general lines of their constitution, functions and finance?

60. What would be the relationship between the Department of Public Instruction and any local agency such as that mentioned in the preceding question, that may be considered necessary to be instituted for this purpose?

61. What functions do you consider should be reserved to Government in carrying out this programme of basic minimum?

[For purposes of facility in answering, it may be pointed out that at present the functions generally reserved to the Department in this instance consist of supervision or control by means of inspecting officers, and enforced by regulations and grants provided through the local bodies for such institutions.]

62. How far would you advise the Department to maintain direct teaching even in this stage by way of providing model institutions for this purpose, or engaging teachers who may be lent to the local bodies concerned with the programme?

XI.—Maintenance and personnel.

63. What do you consider to be the main shortcomings in the proper working of the existing system of education? How would you try to remedy the same?

64. Each of these defects noticed might be also inherent in the programme of universal compulsory education to be the basic minimum standard: how would you suggest the same to be remedied?

65. Could you make any estimate of the number of teachers necessary for carrying out the programme? Would you suggest any means by which the required number of teachers may be recruited from year to year?

66. What means would you suggest should be adopted for training properly the teachers in the task before them? How far could such training be effectively given to any conscript teacher that may be recruited under a system of Social Service Conscription?

67. How far do you think it desirable that the teachers should be permanent, professional, and properly trained individuals devoting their whole time to the task of teaching, and how far in your opinion would the changing personnel as implied in the conscript teacher working for the period of his conscription be undesirable? Is there any means of combining the two, so as to carry out effectively the programme within the prescribed period?

68. In the event of the introduction of a definite practical or occupational bias in education, even during the period of the universal compulsory minimum education, in what way will it react upon the training to be given to the teachers, under the new reorganisation?

69. What is the cost of training teachers in the several grades? Could you indicate a curriculum of studies, with the necessary amount of practical training thrown in, which would suffice for qualifying for a diploma in training suitable for the kind of work herein contemplated?

XII.—Special schools.

70. Should the distinction between recognised and unrecognised schools be retained at all in the scheme of reorganisation contemplated?

71. Inasmuch as under the scheme of reorganisation contemplated, the basic minimum of compulsory education is intended to be universal, it follows that generally speaking a uniform type of school will have to be provided for in every unit of population to be educated. Granting that this is both desirable and inevitable, what room will you allow for the special needs of religion, culture, race, etc., to be catered for in the general system of education of the child, in either general schools common to the whole community, or special schools reserved for particular communities?

72. Would such special communal schools be recognised? If so, under what conditions or restrictions?

73. What would be the reaction in cost as well as in man power of permitting special communal schools whether recognised or unrecognised, to operate side by side?

74. What would be the reaction of promoting special communal schools of this type on the ideal of national solidarity throughout India?

75. Could you conceive of any other reason on which any considerable section of population may insist upon, or for whom it may be deemed desirable to provide, special schools, whether duly recognised or not? To what extent and under what conditions should such schools, apart from communal schools or girls' schools, be allowed to exist side by side with the general system of universal education contemplated hereafter?

XIII.—School hours and school year.

76. What will be the period in a year during which regular, continuous teaching should be provided, with a view to give effect to the programme of universal education contemplated herein?

77. What holidays would you think it desirable, from the standpoint of affording periodical rest to the teacher as well as to the pupil, both occasionally and at a stretch?

78. What consideration would you bear in mind in providing holidays, and utilising the same in some useful activity?

79. What hours do you think it desirable for work at a time in such schools as are contemplated herein? How far would you permit such hours to vary from season to season and also as between villages and towns?

79(a). Is it possible to arrange working hours in such a fashion as to permit the use of school buildings and equipment in two or three shifts?

80. What is the total length of working day you consider desirable for school work?

XIV.—Religious and moral instruction.

81. Do you consider it desirable to provide, in a system of compulsory universal education, any specific religious instruction under existing conditions in India?

82. Even if no specific religious instruction is provided in the ordinary school maintained at public expense on a basis of uniformity throughout the Province, would you introduce in the curriculum any specific subject of moral or ethical character? If so, what means would you adopt to give effect to your ideal?

83. What are the objections which will have to be met if it is decided to provide in the universal schools any special religious or moral instruction?

84. To what extent would such religious or moral instruction, if provided, be confined to mere academical teaching as distinguished from practical, ritual, or ceremonial performance? How far would the purely academical or ethical teaching if imparted, be grasped by the pupils during the age in which they are to be at school under this system?

XV.—Examinations.

85. What do you consider to be the result of a system of mass examinations, on a mechanical basis on the actual degree of knowledge obtained by the pupil?

86. How far in your opinion are examinations, or some sort of standard tests, inevitable for marking the degree of proficiency attained by each pupil?

87. What are the defects of the existing system of providing such periodic tests? How do you propose to remedy these defects?

88. To eliminate the element of mechanical test in modern examinations, what reforms would you suggest in the existing system?

89. How would you stimulate the pupil to work to a given end, even if there is no public examination?

XVI.—The health and welfare of pupils.

90. What provision would you introduce in schools for looking after the health and general well-being of the pupils?

91. How far can the schools make good the deficiency in food or nourishment which the mass of the pupils get in an average Indian home? How would you meet the cost of such additional food supplied to the pupils?

92. How far would it be necessary to provide regular medical attendance and treatment to the pupils? Would you provide it at public expense, or would you seek to recover any portion of the cost from the pupil benefited?

93. What steps would you adopt to look after the general well-being of the pupils apart from their health?

94. How far do you think it advisable to provide in such universal schools any knowledge of sex and its phenomena of working? Under what conditions would you organise instruction in sex-hygiene? At what period should such instruction in your opinion begin? Would there be any difference, in your view, as regards instruction in sex matters, according as we have common or separate schools for boys and girls?

95. How in your opinion should the schools and their pupils be protected against epidemics, if and when they break out? What provision do you suggest should be made by way of inoculation or prophylactics for this purpose?

96. What other items in your opinion should be attended to for the purpose of securing the general well-being of the pupils?

XVII.—Community life amongst pupils.

97. What steps would you take to stimulate community-life and a feeling of national solidarity amongst students of every class and community?

98. What activities, in your opinion, should be introduced in schools to encourage habits of co-operative action or team work?

99. In matters of recreation in schools, what games or amusements would you introduce in such schools with a view to securing common, collective life?

100. What part in your opinion should be assigned to holiday excursions, organised for the pupils collectively, so as to promote a better understanding of the different parts of the Province, as also of the whole country and of its several communities?

101. What other steps would you advise for imparting a better understanding of the classes of people and habits of life other than those with which the pupils in their own circle are familiar? Would you regard periodic exchanges of pupils between schools in villages and towns to be a desirable method of bringing about mutual understanding?

XVIII.—Language.

102. What do you consider to be the best medium of instruction for pupils in such universal schools?

103. Do you consider all the recognised languages of the people in this Province to be suitable for imparting instruction to the pupils? If not, what steps would you adopt to bring up a language to the required standard of expressiveness?

104. In the event of a community speaking a common language being so scattered throughout the Province, as to offer no adequate numbers in any given place for conducting a fully equipped school for the children of that community, what facility would you provide so that the children of such parents should nevertheless receive the basic minimum of education in their own home language?

105. How far do you consider it necessary that all classes and communities of the pupils in this Province should be required to learn in addition to their mother tongue, through which all instruction is to be given, another language which must be common to the whole Province?

106. What room would you provide in the basic minimum of education, imparted on a compulsory universal scale for some instruction in the English language, apart from the common national or provincial language mentioned in the preceding question?

Supplementary questions.

1. Should the total period of education, before the commencement of university education, consist of 12 years as at present, or less or more?

2. If you are in favour of the present period of 12 years, what should be the grades in which this period should be divided and the duration of each grade? Should the secondary stage be sub-divided into lower secondary and higher secondary and the primary stage into lower primary and upper primary? If you are in favour of a different period, please suggest a subdivision with special reference to the point at which pupils may leave off the general schools for vocational or technical education. At what stages would you prescribe public examinations, if any? Would you prescribe age-limits for passing the different public examinations; if so, what should be these limits?

NOTE 1.—The present classification of the different stages of instruction in this Province is as follows :—

Classes.		Years.	Classification.
Infant	...	} 6	Primary.
I	...		
II	...		
III	...		
IV	...		
V	...		
VI	...	} 2	Middle.
VII	...		
VIII	...	} 4	High.
IX	...		
X	...		
XI	...		

NOTE 2.—The Government of India Central Advisory Board of Education has recommended a primary stage of 5 years (including the infant and classes I-IV), a lower secondary stage of four or five years (i.e., classes V-VIII or V-IX), a higher secondary stage of three years (i.e., classes IX-XI or X-XII), with a three years' university course leading to a degree with public examinations at the end of the lower secondary and the higher secondary stage.

NOTE 3.—Another scheme suggested is as below:—

Classes.			Years.	Classification.
I	} 4	(1) Elementary.
II	...	...
III	...	...
IV	...	...
V	} 3	(2) Post-primary.
VI	...	...
VII	...	...
VIII	} 3	(3) Secondary.
IX	...	...
X	...	...
XI	} 2	(4) Higher secondary.
XII	...	...

3. Are you in favour of modifying the present system of general primary education with a view to make it partly or wholly self-supporting or of giving it merely a practical or realistic bias by changing the curriculum in such a fashion as to stress those subjects which have a vocational value? If you are in favour of the former, please suggest the vocations which should be taught at school without aggravating unemployment amongst people who are engaged in these vocations. If you are in favour of the latter alternative, please suggest how the present syllabus can be changed to give expression to this bias.

4. Should the practical bias in education be imparted by centring all instruction in a craft or adding some practical or vocational subjects of the existing syllabus?

NOTE.—It will help the committee greatly if you give a detailed scheme embodying your suggestions in this respect.

5. If vocational training is given in primary schools, should each school serve a single vocational purpose or more than one vocation should be taught in a school? If you favour the single-purpose school, how would you cater for the needs of different vocations and classes of pupils and how would you distribute such unitary schools in rural and urban areas? Would you give instruction in all crafts and occupations of a particular locality or would you select some for special attention? If you favour the multiple-purpose vocational school, how would you arrange instruction to be given in all the crafts of the locality? If you would select some, how would you do so?

6. Assuming that some sort of technical or practical bias will be given to our system of primary education, would you teach the new syllabus in all the existing schools or only in the new schools which may be started? Would you convert some of the existing schools also into the new type schools; if so, what would be the basis of your selection for such conversion? What extra provision, if any, would be required in staff, equipment, accommodation and inspection under your scheme of conversion? What will be its cost (a) per school, (b) per district, (c) for the whole Province? How will this cost be met?

7. Do you regard the present system of aiding primary schools satisfactory? Do you prefer managed schools to stipendiary schools? If so, how would you replace the stipendiary institutions by managed ones?

8. Do you think that the fees charged in primary and middle schools require to be abolished, increased or diminished?

9. Do you think that the present number of scholarships in primary and middle schools is adequate? Should they be increased or diminished in number and should they be reserved for particular classes?

10. What should be the medium and script of instruction (i) for the whole Province, (ii) for special areas like Chota Nagpur and Bengali-speaking and Oriya-speaking tracts and (iii) for the linguistic minorities scattered over the whole Province?

11. Do you think that the supply, quality and training of teachers in primary and middle schools is satisfactory? If not, what steps do you advocate for improving it?

12. If a new vocational syllabus on the lines of the Zakir Husain Committee report is introduced in our schools, what arrangements would be necessary for training teachers to teach the new syllabus? Would you start local training centres or send teachers for training outside the Province?

13. Do you agree that the teachers in our vernacular schools should be trained to assist and advise the pupils and their neighbourhood in connection with nation-building activities like the following?

(a) Adult education.

(b) Village libraries.

- (c) Public and personal hygiene.
- (d) Rural economics and co-operation.
- (e) Wireless reception.
- (f) Magic lantern operations.
- (g) Child and village welfare work.
- (h) Military training and boy-scout, girl-guide and *Bratachari* movements.

14. Do you think that the emoluments and conditions of work of teachers in our existing primary and middle schools are adequate and satisfactory? If not, how would you improve them? Would you pay them quarterly or monthly, by money order or by hand?

15. Are you satisfied with the present system of inspection and control of our primary education by local bodies? If not, what changes would you suggest? Do you favour centralised control for primary education with a view to secure the necessary provincial minimum of education? If some new agency, like a district educational council, is devised for taking over the control of primary education from local bodies, would you exempt them from the obligation of financing primary education? If you do not, how would you collect their contribution?

16. How would you finance a programme of expansion of primary education? Should the primary education of employees, agricultural labourers, factory workers, etc., be made a charge on their respective employers? Are you in favour of compelling local bodies to levy an education cess? Is it practicable to make each village school a charge on the village *punchayat*, the *chaukidari union* or the union board and finance it by voluntary contributions in kind or money? Have you any modifications to suggest in the system of distribution of provincial grants for primary education?

APPENDIX II.

List of persons who replied to the questionnaire.

1. Raja Bahadur Vishweshwar Singh, Darbhanga.
2. Lt.-Col. Owen Berkeley Hill, Ranchi.
3. Rev. H. R. Bridges, B.D., Baptist Mission, Patna.
4. The Right Rev. the Bishop of Chota Nagpur, Ranchi.
5. Babu Ram Lochan Saran, Laheriasarai.
6. Maulavi Nazir Ahmad, Chapra.
7. Maulavi Alauddin Ahmad, Advocate, Bhagalpur.
8. General Manager, The Tata Iron and Steel Company, Limited, Jamshedpur.
9. Chief Inspector of Mines in India, Dhanbad.
10. Rai Bahadur Satish Chandra Sinha, M.L.C.
11. Babu Bansi Lal, M.L.C.
12. Pandit Mewa Lal Jha, M.L.A.
13. Babu Purna Chandra Mitra, M.L.A.
14. Babu Punyadeo Sharma, M.L.A.
15. Principal, St. Columba's College, Hazaribagh.
16. Principal, T. N. J. College, Bhagalpur.
17. Babu N. Acharya, Professor, T. N. J. College, Bhagalpur.
18. Babu M. N. Verma, Professor, Science College, Patna.
19. Dr. Gyan Chand, Professor, Patna College, Patna.
20. Inspector of Schools, Patna Division.
21. Inspector of Schools, Tirhut Division.
22. Inspector of Schools, Bhagalpur Division.
23. Inspector of Schools, Chota Nagpur Division.
24. District Inspector of Schools, Gaya.
25. District Inspector of Schools, Shahabad.
26. District Inspector of Schools, Saran.

27. District Inspector of Schools, Champaran.
28. District Inspector of Schools, Muzaffarpur.
29. District Inspector of Schools, Darbhanga.
30. District Inspector of Schools, Monghyr.
31. District Inspector of Schools, Bhagalpur.
32. District Inspector of Schools, Purnea.
33. District Inspector of Schools, Santal Parganas.
34. District Inspector of Schools, Palamau.
35. District Inspector of Schools, Hazaribagh.
36. District Inspector of Schools, Ranchi.
37. District Inspector of Schools, Singhbhum.
38. District Inspector of Schools, Manbhum.
39. District Inspectress of Schools, Patna and Shahabad.
40. District Inspectress of Schools, Saran and Muzaffarpur.
41. District Inspectress of Schools, Monghyr and Santal Parganas.
42. District Inspectress of Schools, Darbhanga and Champaran.
43. Deputy Inspector of Schools, Aurangabad.
44. Headmaster, Patna Collegiate School, Patna.
45. Headmaster, Patna High School, Patna.
46. Headmaster, Zila School, Arrah.
47. Headmaster, Zila School, Gaya,
48. Headmaster, Zila School, Muzaffarpur.
49. Headmaster, Zila School, Chapra.
50. Headmaster, Northbrook School, Darbhanga.
51. Headmaster, Zila School, Bhagalpur.
52. Headmaster, Zila School, Purnea.
53. Headmaster, Zila School, Dumka.

54. Headmaster, Zila School, Palamau.
55. Headmaster, Zila School, Hazaribagh.
56. Headmaster, Zila School, Ranchi.
57. Headmaster, Zila School, Chaibassa.
58. Headmaster, Zila School, Purulia.
59. Headmaster, B. N. Collegiate School, Patna.
60. Headmaster, T. K. Ghosh's Academy, Patna.
61. Headmaster, Dayanand High School, Mithapur_ (Patna).
62. Headmaster, Haridas Seminary, Gaya.
63. Headmaster, George Coronation High School, Nawada (Gaya).
64. Headmaster, Town School, Arrah (Shahabad).
65. Headmaster, High School, Chandi (Shahabad).
66. Headmaster, Eden Raj High School, Hathwa (Saran).
67. Headmaster, Saran Academy, Chapra (Saran).
68. Headmaster, H. R. B. H. E. School, Gangpur (Siwan).
69. Headmaster, Bisheshwar Seminary, Chapra.
70. Headmaster, S. P. S. Seminary, Sonepore (Saran).
71. Headmaster, Heycock Academy, Motihari, Champaran.
72. Headmaster, Mangal Seminary, Motihari, Champaran.
73. Headmaster, Khrist Raja High School, Bettiah (Champaran).
74. Headmaster, Jadunandan High School, Baghi (Muzaffarpur).
75. Headmaster, Marwari High School, Muzaffarpur.
76. Headmaster, B. B. Collegiate School, Muzaffarpur.
77. Headmaster, High School, Sitamarhi (Muzaffarpur).
78. Headmaster, High School, Laheriasarai (Darbhanga).
79. Headmaster, High School, Rosera (Darbhanga).

80. Headmaster, Coronation High School, Madhepur (Darbhanga).
81. Headmaster, Prince of Wales High School, Khagaria (Monghyr).
82. Headmaster, Lakhisarai High School (Monghyr).
83. Headmaster, Shyamsundar Institute, Bhagalpur.
84. Headmaster, William H. E. School, Supaul.
85. Headmaster, High School, Araria (Purnea).
86. Headmaster, Maheshwari Academy, Katihar (Purnea).
87. Headmaster, High English School, Pakur (Santal Parganas).
88. Headmaster, East Indian Railway High School, Sahebgang (Santal Parganas).
89. Headmaster, S. C. High School, Amjora (Santal Parganas).
90. Headmaster, Govind High School, Garhwa (Palamau).
91. Headmaster, St. Mary's High School, Samtoli (Ranchi).
92. Headmaster, Lionel Edwards Bengali Boys' High School, Ranchi.
93. Headmaster, St. John's High School, Ranchi.
94. Assistant Master, High School, Gunla (Ranchi).
95. Headmaster, G. N. M. High School, Katrasgarh (Manbhum).
96. Headmaster, B. N. Ry. Indian High School, Chakradharpur (Singhbhum).
97. Headmaster, Mrs. K. M. P. M. High School, Jamshedpur.
98. Lady Principal, B. N. R. Training College, Patna.
99. Lady Principal, C. M. S. Girls' High School and Women's Training class, Deoghar.
100. Lady Principal, Angus Girls' M. E. School and Training Class, Patna.

101. Lady Principal, R. C. Mission Training School for Women, Ranchi.
102. Lady Superintendent, Women's Training Class, Muzaffarpur.
103. Superintendent, Reformatory School, Hazaribagh.
104. Superintendent, Islamic Studies, Bihar.
105. Registrar of Examinations, Bihar.
106. Registrar, Co-operative Societies, Bihar.
107. Vice-Chairman, District Board, Champaran.
108. Chairman, District Board, Purnea.
109. Vice-Chairman, District Committee, Santal Parganas.
110. Vice-Chairman, District Board, Palamau.
111. Vice-Chairman, District Board, Hazaribagh.
112. Chairman, District Board, Ranchi.
113. Chairman, Notified Area Committee, Jamshedpur.
114. Chairman, District Board, Manbhum.
115. Vice-Chairman, Patna City Municipality.
116. Executive Officer, Patna Administration Committee.
117. Vice-Chairman, Jamalpur Municipality.
118. Vice-Chairman, Dumraon Municipality.
119. Chairman, Jhalda Municipality.
120. Chairman, Hajipur Municipality.
121. Chairman, Darbhanga Municipality.
122. Chairman, Chatra Municipality.
123. Chairman, Daudnagar Municipality.
124. Vice-Chairman, Purnea Municipality.
125. Chairman, Lalganj Municipality.
126. Chairman, Purulia Municipality.
127. Secretary, Tilak Rashtriya Vidyalaya, Bhagalpur.
128. Secretary, Gurukul Mahavidyalaya, Baidyanath Dham, Deoghar.

129. Honorary Joint-Secretary, Suhrid Parishad and Hem Chandra Library, Patna.
130. General Secretary, Maithili Sahitya Parishad, Darbhanga.
131. Secretary, Singhbhum Utkal Sabha, Chaibasa.
132. Secretary, Bengali Association, Patna.
133. Secretary, Bihar Christian Council, Ranchi.
134. Secretary to the Bishop of Patna.
135. President, Singhbhum Utkal Sabha, Jamshedpur.
136. Babu Govindbhai, Provincial Harijan Seva Sangha, Muzaffarpur.



सत्यमेव जयते

APPENDIX III.

Proposed Syllabus for Basic Schools (based on Basic National Education Syllabus, prepared by Zakir Husain Committee, published by the Secretary, All-India Education Board, Segaon, Wardha, C. P.).

LIST OF CONTENTS.

1. Basic Crafts.
 - (A) Agriculture.
 - (B) Spinning and Weaving.
 - (C) Wood-work.
2. Mother-tongue and Hindustani.
3. Mathematics.
4. Social Studies.
5. General Science.
6. Drawing.

NOTE.—The syllabus here given is only a tentative suggestion drawn up to show what information and activities can be mutually co-ordinated in the curriculum. We hope that it would be possible to improve it in the light of actual experience. We are sure that the Department of Education, teachers in our new schools, and in our training institutions who work out this scheme systematically will be able to contribute considerably to its improvement.

1. BASIC CRAFT: (A) AGRICULTURE.

The syllabus has two distinct parts. The first relates to the period beginning from Grade I to Grade V when agriculture will not be taken up as a basic craft. During this period the aim will be to provide a suitable course to interest and instruct the pupils in the fundamental principles of soil management and plant growth. It will form part of the syllabus in General Science. The pupils will be working on a small plot of about an acre, and will grow vegetables and other garden crops.

The second relates to the period of Grades VI and VII, when the pupils may take agriculture as the basic craft. The practical and theoretical courses for each year are so correlated that while practising the first, the second could very easily be explained to, and assimilated by, the pupils.

Grade I.

N.B.—Boys in this class will be seven years old. Garden work only will be done on a small portion of the demonstration plot. Boys will use only very small *khurpis* and watering cans. The first half year will be spent entirely in observation. Practical work as suggested below would begin in the next half year, when the boys would be about seven years old. The theoretical portion should be dealt with in an interesting manner. Only broad facts should be given, details will be developed later on.

Time :— $\frac{1}{2}$ an hour each week.

Practical—

1. Sowing of seeds in the nursery.
2. Watering the nursery.
3. Care of seedlings and plants (garden) :—
 - (a) Watering.
 - (b) Weeding.
 - (c) Mulching.
 - (d) Picking insects.
 - (e) Manuring the nursery and small garden plants with fertilizers.
4. Collection of seeds of flower plants and vegetables in the garden.
5. Animal husbandry.

Feeding domestic birds and animals. Taking care of the young of pets.

Theoretical—

1. Recognition of a plant and its different parts. Roots, stems, leaves, flowers and fruits.
2. How a plant develops from the seed. Seed, root, stem, leaves, flowers and fruits.
3. What the plant needs for its growth. Soil, water, food, light and air.
4. Uses of birds and animals.

N.B.—In addition to the above, the boys will be taken round the fields in the village for observational purposes.

Grade II.

Time :— $\frac{1}{2}$ an hour each week.

Practical—

1. Sowing of seeds.
2. Preparation of small seed beds in boxes.
3. Preparing areas to take seedlings—garden beds of small sizes.
 - (a) Digging.
 - (b) Manuring.
 - (c) *Khurpi* work.
4. Transplanting of vegetable and flower seedlings :—
 - (a) Spacing.
 - (b) Handling.
 - (c) Planting.
 - (d) Watering.
 - (e) Protection.
5. Mulching and weeding by *khurpis*.
6. Manuring :—
 - (a) Top-dressing.
 - (b) Mixing.
7. Picking insects and spraying the diseased parts of plants.
8. Propagation other than by means of seed.

Use of cuttings—how performed—results to be noted later.
9. Animal husbandry.

Keeping pets and observing their habits.
10. Art and craft—

Preparing designs in the garden based on certain geometrical figures. Preparation of boquets and garlands. Making hanging pots for flower plants and creepers from bamboo chips.

Theoretical—

1. How the site for a nursery should be selected and a nursery made.
2. Kind of soil and manure required.

3. Recognition of good and bad seed.
4. Effect of the quality of seed on germination.
5. Functions of different parts of the plant :—

- (a) Root.—Fixation in the soil—absorption of food.
- (b) Stem.—Absorption—carrying the food and sustaining the upper growth.

N.B.—Red ink experiment may be performed in the class room to show how the absorbed material rises through the channel.

6. Time of planting—late in the afternoon. Watering—early in the morning and late in the afternoon.

7. Collection of seed. Where and how to collect.

N.B.—The boys will be taken round the farm when important operations are in progress, for purposes of observation.

Grade III.

Time :— $\frac{1}{2}$ an hour each week.

Practical—

N.B.—In this class, all the operations in the flower and vegetable garden will be done by the boys. They will be able to handle and work with small sized spades, forks, *kudalies* and other hand tools.

1. All operations done in the two previous classes to be repeated.

2. Potting the plants.

3. Preparation of leaf mould and compost for pots.

4. Propagation of plants by layering. Results to be noted later.

5. Rearing of caterpillars to see the four stages.

6. Mulching of flower and vegetable beds during breaks.

7. Boys to grow manured and unmanured pots to observe the difference in the growth of plants.

8. Animal husbandry. Tending the animals.

Theoretical—

1. Study of germinated seeds :—

(a) Embryo.

(b) Cotyledons.

Embryo grows into plumule and radical.

Contents of cotyledons. Growth of plumule upwards, and of radical downwards. Fate of cotyledons as a plant grows.

2. Study of roots :—

(a) Tap root.

(b) Fibrous root.

3. Study of stem, division into bark and wood, nodes, internodes, buds, branches and leaves. Difference between a root and a stem.

4. Life history of a butterfly and grass-hopper.

5. Crop pests :—

Stem and shoot borer. Control measures.

6. Pot filling :—

(a) Material required for filling the pots.

(b) Qualities of a good leaf mould and the proportion in compost.

7. Necessity of manures and their functions :—

The use of artificial manures.

8. Disposal of night-soil. Its value as manure.

9. Knowledge of the different dairy products.

Grade IV.

Time :— $\frac{1}{2}$ an hour each week.

Practical—

1. Growing of rainy season vegetables in the garden plots :—

Cucurbits, beans, brinjals, etc., (according to locality).

2. Preparation of land in the garden for transplanting the seedlings.

3. Manuring the land.

4. Laying out the land for irrigation and irrigating the crops after transplanting and thereafter.

5. Top-dressing of vegetable crops with different fertilisers. Ammonium sulphate, nicifos and nitrate of soda.

6. Percolation and capillary experiments with and without mixture of manure, lime and sand.

7. Study of different ploughs :—

(a) Wooden.

- (b) Iron ploughs—Punjab plough, Bihar plough, junior and senior. Bihar cultivator, five tined, three tined. Bihar ridging, senior and junior; Sukhada implements. Their functions by observation while they are being worked in the fields.

8. Visits to the neighbouring hills where possible to demonstrate the formation of the soil.

9. Poultry farming :—

Feeding, cleaning the sheds and the runs; collecting eggs; hatching; care of chickens.

Theoretical—

1. Recognition of field crops. Division into two main groups according to the time of sowing *rabi* and *kharif*.

2. Study of soil.

(a) Formation of soil. Agencies which bring about the weathering and tearing of rocks—

(i) air, (ii) water and (iii) heat.

3. Recognition of soils of the locality.

4. Their classification into sandy, loamy and clay.

5. Recognition by :—

(a) Feel, granulation, colour, weight.

(b) Mechanical analysis of each.

(c) Physical characters of each.

(d) Correlation between texture and structure of a soil. Presence of air and its effect on absorption, percolation and capillary rise.

(e) To deduce from above the suitability of soils for *kharif*, *rabi* and garden crops.

6. Forms of soil moisture.

7. The control of soil moisture.

8. Necessity of manures and their functions. When, how, and in what quantities artificial manures should be applied.

Grade V.

Time :— $\frac{1}{2}$ an hour each week.

Practical—

1. Weeds and weedlings.

2. Wooden and iron ploughs. Their functions by observation, during their use in the field.

3. Harrowing and beaming.

Difference between ploughing and beaming or harrowing to be observed.

4. Cultivation of vegetables. In addition to rainy season vegetables, cold weather vegetables, such as cauliflower, lettuce, cabbage, knolhol, French beans, tomatoes, and peas will also be grown on the plot.

5. Study of roots of paddy, wheat, maize, cotton, jowar and gram.

6. Planting of the pieces of the roots of radish and carrot, and of the stems of potatoes, arum and ginger for the recognition of roots and stems.

7. Boys to collect many kinds of leaves and to divide them first according to veins and later on into simple and compound leaves.

8. Boys to observe and to note the time of opening of flowers in their garden.

9. Compost-making from weeds and other vegetable matter collected in the garden.

10. Field experiments to be carried out in special small plots, set aside in the garden for observation purposes to note the effects of manuring, weeding and mulching.

(a) Manured versus unmanured plots with the same crop and uniform treatment in other respects.

(b) Weeded versus unweeded plot.

(c) Crop weeded and hoed versus weeded only.

Theoretical—

1. Kinds of weeds.

2. Necessity of weeding. Where and how to weed.

3. Effect of cultivation on weeds:—

(a) Deep for perennials.

(b) Shallow for annuals.

4. Utility of mulching during the after-rains. The effect on—

(a) Absorption and retention of soil moisture for *rabi* crops.

(b) Weeds.

5. Country and iron ploughs to be compared. Difference in:—

(a) Make.

(b) Work.

(c) Advantages of the Punjab and Bihar ploughs over the country plough.

6. Kind of work a *henga* does. The difference between the working of a plough and a *henga*. Effect of beaming and harrowing *rabi* lands during breaks in rains.

7. Formation of roots and their division into two-root systems. Tap and fibrous.

8. Modification of the roots and stems.

9. Observation of roots such as the radish, sweet potato and carrot, and stems such as potato, arum, ginger, and their distinguishing characters.

10. Adventitious roots such as on banyan tree, jowar, wheat and creepers.

11. Study of flowers, as regards the arrangement of parts, colour, smell and the time of opening.

12. Method of preparing manures. Cow-dung manure and urine earth.

Grade VI.

Time :—3 hours and 20 minutes every day.

N.B.—Boys will be required to work in the fields, and carry out all operations in growing crops.

Practical—

1. Yoking bullocks to harrow or beam and ploughs and straight driving.

2. Growing of suitable crops of the tract. Cultivation in detail from preparation of the land to threshing and cleaning of grain of some of the locally grown *rabi* and *kharif* crops.

3. Working of all necessary implements used in raising field and garden crops. Hoes, seed-drills, ridging-ploughs and cultivators.

4. Cultivation of garden crop, brinjal, tomato, chillies, sugar-cane, potato, arum, ginger, turmeric, peas, etc.

5. Storing of cow-dung in pits and conservation of urine by urine earth system.

6. Growing sann hemp for grass manuring.

7. Manuring the fields with cow-dung and urine earth.

8. Green manuring with sann hemp for garden crops and rice if locally grown.

9. Use of liquid manures.
10. Rotation practised on the farm to be demonstrated.
11. Collection of flowers and their classification according to parts.

Observation of which insects visit the flower and what they do there.

12. Horticulture.

Propagation of plants:—

- (a) Guavas by “Ghootee”.
- (b) Oranges and roses by “budding”.
- (c) Mangoes by “enarching” and “grafting”.

13. Planting of propagated plants:—

- (a) lay out, (b) digging of pits, (c) filling and manuring of pits, (d) planting of plants, (e) spacing of plants according to size. (f) irrigation, (g) pruning of fruit trees and shrubs.

14. Field experiments to be carried out in special small plots set aside in the garden, and observations noted down in each case:—

(a) Rotational:—

- (i) Same crop to be grown continuously in the same plot.
- (ii) Same crop to be grown in rotation with a suitable crop.

(b) Cultivated and harrowed versus cultivated and trampled plots in black (*kewal*) soil. Observation to be made during rains. To explain absorption and importance of frequent stirring during rains and conservation of moisture at the end of the season for *rabi* crops.

(c) Growth of plants to be observed in surface and sub-soils, plants to be grown in pots filled with both soils.

Theoretical—

1. Storing of seed.
2. Test of good seeds:—
 - (a) Gravitation.
 - (b) Germination percentage.

3. Preparation of seed-bed according to the size of the seed :—

- (a) Fine for fine seeds.
- (b) Coarse for big seeds.

4. Methods of irrigation :—

- (a) Preparing beds, (b) flood, (c) principles to be kept in mind according to the texture and situation of the soil.

5. Soils.

Composition of surface and sub-soil :—

- (a) Depth at which separation occurs.
- (b) Feel, granulation and colour.
- (c) Stickiness and wetness.
- (d) Amount of organic matter present.
- (e) Difference in the fertility of the surface and sub-soil.
- (f) Care to be taken while ploughing not to bring the sub-soil to the surface.

6. Necessity of ploughing.

- (a) Destruction of weeds and insects.
- (b) Clearing the fields.
- (c) Turning the soil.
- (d) Formation of plant food.
- (e) Retentive capacity of cultivated and uncultivated land.
- (f) Effect on *rabi* crops.
- (g) Necessity of monsoon ploughing and constant harrowing during breaks in the rains.

7. Study of farm crops.

- (a) Recognition of crops grown in the locality, attention to be drawn to :—
 - (i) Time and method of sowing.
 - (ii) Seed rate per acre.
 - (iii) Distance between the rows.
 - (iv) Various operations performed during its growth. How and why?
 - (v) Harvesting time.
 - (vi) Outturn per acre.

8. Ploughs and harrows to be studied.

- (a) Their various parts and the work done by each.
- (b) Comparison of working of a harrow and disc harrow.
- (c) When the disc harrow is used :—to crush the clods and prepare tilth to simplify the working of a harrow in weedy land.

9. Study of other harrows :—their work and purpose.

10. General principles to be given in the class-room regarding the ways, methods, and time of plant-propagation, oranges, mangoes, litchis, peaches, bananas, and guavas.

11. Cultivation of fruit trees to be taken in details :—

- (a) Mangoes, (b) Litchis, (c) Guavas, (d) Oranges, (e) Lemons, (f) Jack fruit, (g) Peaches and (h) other fruit trees.

12. Rotation of crops :—

- (a) Its necessity, (b) purpose, (c) effect on fertility, (d) how to arrange it.

13. Detailed study of sugar-cane crop.

14. Manures in details with classifications :—

- (a) Plant is built up of gaseous matter and ashes. Where does each come from?
- (b) The main ingredients of a manure :—Nitrogen, Potash and Phosphorous.
- (c) Effect of each on the plant growth.
- (d) Bulky and concentrated manures.
- (e) What crops can be used for green manuring. Time for green manuring.

15. Other methods of preserving the fertility of soil :—
rotation, judicious cultivation.

16. Detailed study of field and garden crops continued.

17. Plans and estimates for the construction of simple sheds and stables with practical training wherever possible.

18. Practice in the elements of smithy and carpentry necessary for mending agricultural implements.

Grade VII.

Time:—3 hours and 20 minutes every day.

Practical—

1. Threshing, winnowing and cleaning of crops raised, after harvesting them. Fitting of a winnowing machine to clean different crops.

2. (a) The boys to study the pests on the crops they have grown.

(b) Preparation of insecticides and spraying.

3. Study of flowers, continued.

4. Raising of crops to be continued—field, garden and fruit.

5. Preparation of *gur*.

6. Experiments to be performed to show that plants give out oxygen in assimilation.

7. Dismantling and re-fitting of sugarcane crushing mill.

8. The Punjab and Bihar ploughs. Dismantling and re-fitting the above two ploughs.

9. Animal husbandry:—

Care of animals:—Better housing, cleanliness, proper feeding, when at light or hard work.

10. Dairying:—

Milking and preparing products from milk.

How to judge good milkers.

Chief points to be remembered and demonstrated.

11. Cattle-diseases:—

(a) Treatment of ordinary cases such as wounds, inflammations, skin diseases, etc.

(b) Contagious diseases:—Observations of such animals and their treatment.

12. If possible, the pupils may run a co-operative shop in the school.

13. Farm accounts:—

The boys to keep complete account of the school farm, to work out profit and loss per crop as well as for the whole farm on prescribed registers.

14. Field experiments to be carried out in special small-sized plots set aside in the garden and observations noted down in each case periodically, and conclusions drawn at the end of the trial:—

- (a) Thick planting *versus* proper planting.
- (b) Crop grown in plot exposed to sunlight *versus* crop shaded from sunlight.
- (c) Observation on plant growth and water holding capacity in sandy soil *versus* sandy soil manured with humus, heavy soil *versus* heavy soil manured with humus.
- (d) Observation of effect of exposure to weather of soil cultivated when wet or dry.

Theoretical—

1. (a) Seed drills:—

- (b) Threshing machine Norag.
- (c) Winnower.

2. Pests:—

- (a) What are pests?
- (b) Natural and artificial means of checking them.
- (c) Harmful and beneficial insects.

3. Flowers and fruits:—

- (a) Flowers studied in detail with reference to male and female elements.
- (b) Pollination as a means of fertilisation and the agencies of pollination.
- (c) Division of fruit into dehiscent, indehiscent, dry and pulpy.
- (d) Means of seed dispersal.

4. Exhalation of oxygen from the leaves:—

- (a) Nutrition.
- (b) Green colour and the effect of sunlight. Transpiration, means of decreasing and increasing transpiration.

5. Implements:—

- (a) Sugarcane crushing mill.
- (b) Fodder cutter.

Cost, outturn and working expenses of each.

6. Special method of eradicating—

- (a) “ Kans ”—by bunding the fields and uprooting in rains by deep ploughing followed by constant harrowing during breaks in rains and after.
- (b) “ Nagarmotha ” by growing sann crop in the field.
- (c) “ Dub ” by deep ploughing in hot weather and constant harrowing during breaks in rains and after.

7. Effect of deep and shallow ploughing on perennial weeds and insects. Deep and shallow ploughing according to the soil and season. When and with what purposes the spring and spike tooth harrows are used.

8. Cattle breeding :—

Principles of breeding and rearing of cattle. Selections of good bull, suitable cows; cross and in-breeding and proper selection.

9. Cattle diseases :—

- (a) To distinguish a sick animal from a healthy one.
- (b) Segregation of sick animals.
- (c) Care of sick animals. Housing and feeding. General precautions to be taken to protect one's herd from contagious diseases.

10. Detailed study of field and garden crops continued.

11. Co-operation :—

Instruction in principles of co-operation in a village. Its advantages.

12. Farm account :—

- (a) Stock book.
- (b) Classified contingent register.
- (c) Cash-book.
- (d) Diary.
- (e) Muster-roll, weekly and monthly.
- (f) Ledger.

13. Preparation of final yearly accounts and how to work out profit and loss.

N.B.—Revision of the portions taught in the previous classes in soils, cultivation, manures, crops, etc. The boys would continue to work in the field throughout the year in crops grown by them.

List of requirements of a non-recurring nature on the 10 acre basis of farming in schools.

Serial no.	Number of articles.	Name of required articles.	Cost.	Remarks.
			Rs.	
1	10 (acres)	Land for cultivation ..	4,000	
2	1	Well with enough supply of water	500	
3	..	Fencing for the area ..	250	
4	1	Rahat (water lift) ..	175	
5	2 (pairs)	Bullocks	300	
6	2	Bihar plough	25	
7	2	Bihar ridging (junior) ..	18	
8	2	Punjab plough	50	
9	2	Bihar ridging (senior) ..	30	
10	2	<i>Desi</i> plough	5	
11	2	Planet junior hoe	50	
12	2	Bihar cultivator	40	
13	1	Lever peg harrow	20	
14	3	Yokes (8 ft. and 6 ft.) ..	6	
15	1	<i>Henga</i>	2	
16	1	Cart	10	
17	..	Hut for bullocks and implements	250	
18	1	Horse hoe	35	
19	12	<i>Desi Kodali</i>	18	
20	12	<i>Vilayti Kodali</i>	36	

Serial no.	Number of articles.	Name of required articles.	Cost.	Remarks
			Rs.	
21	12	Kodali fork (junior) ..	48	
22	12	Garden fork for weeding and hoeing.	24	
23	3	Garden rake	15	
24	3	Shovel	12	
25	12	Sickle	5	
26	12	Khurpa	5	
27	2	Balance with weight (one big, one small).	40	
28	2	Crow bar	5	
29	1	Basoola	5	
30	1	Saw	5	
31	6	Pick axe	20	
32	2	Axe	5	
33	3	Secateur	12	
34	6	Budding knife	25	
35	6	Pruning knife	18	
36	3	Garden shears	24	
37	6	Grafting knife	25	
38	6	Winnower	2	
39	1	Cane crushing plants ..	150	
40	1	Iron pan	20	
41	..	Ropes and bamboos..	50	
42	4	Chains (12 ft. pieces) ..	8	

Serial no.	Number of articles.	Name of required articles.	Cost.	Remarks.
			Rs.	
43	2	Seed drill	1	
44	2	Shears for <i>Desi</i> plough ..	1	
45	6	Basket	3	
46	50	Gunny bag	15	
47	1	Slide wrench	3	
48	1	Hammer	1	
49	1	<i>Mungra</i>	1	
50	1	<i>Sursi</i>	2	
51	2	<i>Garasi</i>	2	
52	1	Measuring tape	5	
53	6	Watering can	12	
54	1	Sprayer	100	
55	1	Chaff cutter	50	
56	6	Iron bin for grains	150	
57	1	Seed store .. ..	..
		2 Pucca rooms of 16' × 12' ..	500	
58	..	Feed of bullocks and cost of plants for first year.	300	
59	..	Miscellaneous	100	
		Total	7,589	
		An additional provision to get the plot in running order and to meet the non-recurring expenditure for a year.	1,000	
			8,589	

N.B.—The list of requirements is good for an expansion of acreage up to a limit of

Proposed cropping programme to suit North Bihar, Bhagalpur and Patna range sugarcane tracts with irrigation facilities.

Crops.	Area (acres).	Labour.	*Other charges.	Land revenue.	Total expendi- ture.	Average outturn per acre.	Total receipt expected.	Net profit.	Remarks.
1	2	3	4	5	6	7	8	9	10
Sugarcane ..	3	225	165	30	420	250	750	330	Yield of cane calculated at about 1,000 mds. per acre.
Garden crops ..	2	80	100	20	200	125	250	50	
Fruits ..	1	60	50	10	120	150	150	30	
Cereals, pulses, cot- ton, fodder crops and other agricultural crops.	4	40	40	40	120	35	140	20	
Total ..	10	405	355	100	860	560	1,290	430	
Deduct savings expected from pupils' labour.	..	100	..	..	100	..	..	100	
	10	305	355	100	760	560	1,290	530	

* Includes seeds, manures, etc.

BASIC CRAFT: (B) SPINNING AND WEAVING.

Grade I.—First Term.

1. The following processes should be taught during this term :—

- (a) Cleaning cotton.
- (b) Preparing slivers from carded cotton.
- (c) Piecing.
- (d) Spinning on the takli with the right hand;
with the fingers;
on the leg above knee.
- (e) Spinning on the takli with the left hand, but the
twist to be as the right hand twist.
The three methods as above.
- (f) Winding yarn on to the winder.

2. Spinning on the takli should be taught alternately with the right and the left hands.

3. The speed at the end of six months, including winding, should be $1\frac{1}{2}$ lattis (hanks of 160 rounds) of 10 counts yarn in three hours.

4. The average daily speed for the six months should be $\frac{3}{4}$ latti of 10 counts yarn—i.e., the total production of 144 days is 27 goondis (hanks of 640 rounds), weighing one seer $1\frac{1}{2}$ powas.

Wages at the rate of Re. 0-12-0 per seer, excluding carding, will be Rs. 1-0-6.

Grade I.—Second Term.

1. In this term carding should be taught.

2. At the end of six months the speed of carding (including the making of slivers) should reach $2\frac{1}{2}$ tolas an hour.

3. At the end of six months the speed of spinning on the takli, including winding, should be 2 lattis of 10 counts yarn in three hours.

4. The average speed of spinning on the takli for this term, including carding, should be $1\frac{1}{4}$ lattis of 10 counts yarn in three hours. The total production will be 45 goondis weighing $2\frac{1}{4}$ seers.

The wages at Rs. 1-6-0 per seer (including carding) will be Rs. 2-8-6.

PROBLEMS IN CONNECTION WITH THE MECHANICS OF SPINNING
ON THE TAKLI.

1. If a greater amount of yarn is wound on the takli, why is the rate of revolution of the takli reduced?

2. If the yarn is loosely wound on to the takli, why does the rate of revolution of the takli decrease?

3. Why do we apply ash while spinning in order to increase the rate of revolution of the takli?

Grade II.—First Term.

Spinning.

1. Ginning should be taught in this term.

2. At first, ginning should be taught with a wooden plank and a steel rod. When the speed has reached 1 chatak in $\frac{1}{2}$ hour, the village hand gin should be introduced.

3. The speed of ginning at the end of 6 months should reach 20 tolas of cotton in $\frac{1}{2}$ hour.

4. The speed of carding (including the preparation of slivers) at the end of the term should reach 3 tolas per hour.

5. The speed of spinning on the takli (including winding) at the end of the term should reach $2\frac{1}{4}$ lattis of 10 counts yarn in 3 hours.

6. The daily average of spinning on the takli (including carding) for the term should reach $1\frac{3}{4}$ lattis of 12 counts yarn in three hours. The total production will be 63 goondis weighing 2 seers 10 chataks.

Wages at Rs. 1-6-0 per seer (including carding) will be Rs. 3-9-9. Adding Re. 0-4-0 for ginning, the total wage will be Rs. 8-13-9.

Grade II.—Second Term.

1. In this term, students should be taught spinning on the Bihar Charkha.

2. Spinning on this charkha should be taught with the right and left hands alternately.

3. The speed of carding (including the making of slivers) at the end of the term should reach $3\frac{1}{2}$ tolas per hour.

4. The speed of spinning on the takli (including winding) at the end of the term should reach $2\frac{1}{4}$ lattis of 12 counts yarn in three hours.

5. The speed of spinning on the charkha (including winding) at the end of this term should reach $3\frac{3}{4}$ lattis of 16 counts yarn in three hours.

6. During this term the processes of calculating the count of the yarn produced should be taught. The child should be able to do the work both practically and with the correlated theoretical knowledge.

7. The daily average speed of spinning (including carding), for the term, on the charkha should be $2\frac{1}{2}$ lattis of 14 counts yarn. The total production will be 90 goondis weighing 3 seers $3\frac{1}{2}$ chataks. At the rate of Rs. 1-10-0 per seer (including carding) the wages will be Rs. 5-3-6. Adding Re. 0-4-0 for ginning, the total income becomes Rs. 5-7-6.

PROBLEMS CONNECTED WITH THE MECHANICS OF SPINNING ON THE CHARKHA.

1. The advantages and disadvantages of keeping the spindle of the charkha parallel to the ground or at an angle.

2. What should be done in order that the pulley may revolve exactly in the middle of the modies.

3. Which parts of the charkha should be oiled.

4. Why should the charkha be oiled ?

5. Why does the charkha move more smoothly after oiling ? Here the principle of friction should be explained to the children. Also they should notice the effect of oiling the hinges of a door, a swing, and the pulley for drawing water from a well.

Grade III.—First Term.

Spinning.

1. In this term the students should be taught to recognise the different types of cotton. They should also learn to estimate the length of fibre and to understand the count of yarn which can be produced from each different type of cotton.

2. At the end of the term, the rate of carding (including the preparation of slivers) should reach 4 tolas an hour.

3. At the end of the term, the speed of spinning on the takli (including winding) should reach $2\frac{1}{2}$ lattis of 12 counts yarn in three hours.

4. At the end of this term, the speed of spinning on the charkha (including winding) should reach $3\frac{3}{4}$ lattis of 20 counts yarn in three hours.

5. The daily average speed of spinning (including carding) for the term will be $2\frac{1}{4}$ lattis of 20 counts yarn in three hours. The total production will be 90 goondis weighing $2\frac{1}{4}$ seers. The wages at the rate of Rs. 2-4-0 per seer (including carding) will be Rs. 5-1-0.

Grade III.—Second Term.

1. At the end of the term, the speed of spinning on the takli (including winding) should reach $2\frac{3}{4}$ lattis of 12 counts yarn in three hours.

2. At the end of the term, the speed of spinning on the charkha (including winding), should reach $4\frac{1}{2}$ lattis of 20 counts yarn in three hours.

3. The daily average speed of spinning for the term (including carding) will be $3\frac{1}{4}$ lattis of 20 counts yarn in 3 hours. The total production will be 117 goondis weighing 2 seers $14\frac{1}{2}$ chataks. The wages at Rs. 2-4-0 per seer (including carding) will be Rs. 6-8-9.

PROBLEMS CONNECTED WITH THE MECHANICS OF SPINNING AND CARDING.

1. What is the advantage of the moving modhiya ?
2. What is the reason of slippage ? And how should it be prevented ?
3. What is the effect on carding of a tightly or loosely strung gut on the carding bow ?
4. What are the uses of springs in charkhas ?

Grade IV.—First Term.

Spinning.

1. During this term, the students should be taught the following subjects with the correlated theoretical knowledge :—

- (a) How to find the strength and evenness of the yarn ;
- (b) How to calculate the resultant speed by the formula S/C where S is speed and C is count.

2. In this term, the student should learn to repair the hand gin and the carding bow.

3. At the end of six months the speed of spinning on the charkha (including winding) should reach $4\frac{1}{2}$ lattis of 24 counts yarn in three hours.

4. The daily average speed of spinning (including carding) for this term should reach $3\frac{1}{2}$ lattis of 24 counts yarn. The total production will be 126 goondis weighing 2 seers 10 chataks. The wages at Rs. 2-14-0 per seer (including carding) will be Rs. 7-8-9.

Grade IV.—Second Term.

1. In this term, the students should be taught the following subjects :—

(a) a knowledge of the different parts of the Bihar Charkha and how to repair it.

(b) The preparation of bamboo taklis.

2. At the end of the term, the speed of spinning on the takli (including winding) should reach 3 lattis of 14 counts yarn in three hours.

3. At the end of the term, the speed of spinning on the charkha (including winding) should reach 5 lattis of 28 counts yarn in three hours.

4. The daily average speed of spinning (including carding) for the term should be $3\frac{1}{2}$ lattis of 28 counts yarn in 3 hours. The total production will be 126 goondis weighing $2\frac{1}{4}$ seers. The wages at Rs. 3-10-0 per seer will be Rs. 8-2-6.

PROBLEMS CONNECTED WITH THE MECHANICS OF SPINNING.

1. The speed of spinning is increased by a pulley of a smaller diameter. But why is it more difficult to wind the yarn ?

2. Why is the actual number of revolutions less than the calculated number of revolutions ?

*Grade V.—First Term.**Spinning.*

1. In this term, the students should be taught the Andhra method of ginning and carding and spinning yarn to 40 counts; but the spinning should continue to be on the Bihar Charkha.

2. At the end of the term, the speed of spinning (including winding) should reach 2 lattis of 40 counts yarn in 2 hours.

3. In this term, the students should also be taught to spin on the Magan Charkha.

4. The speed of spinning on the Magan Charkha (including winding) at the end of the term should reach $2\frac{1}{2}$ lattis of 24 counts yarn in an hour.

5. The daily average speed of spinning (including ginning and carding) for the term on the Bihar Charkha should reach $1\frac{1}{4}$ lattis of 40 counts yarn in 2 hours, and on the Magan Charkha (including carding) $1\frac{1}{2}$ lattis of 24 counts in one hour.

6. The total production for six months will be 45 goondis of 40 counts yarn weighing 9 chataks and 54 goondis of 24 counts yarn weighing 1 seer 2 chataks.

7. The wages for 40 counts yarn at Rs. 6-4-0 per seer will be Rs. 3-8-3 and for 24 counts yarn at Rs. 2-14-0 per seer (including carding) will be Rs. 3-3-9. The total earnings for this term will be Rs. 6-12-0.

Grade V.—Second Term.

1. In this term, the student should be taught to spin yarn to 60 counts.

2. The following subjects should be taught with the correlated theoretical knowledge:—

(a) The length of yarn necessary to produce 1 yard of cloth.

(b) The necessary twist required in one inch of yarn for a particular count.

(c) The ratio of the revolution of the spindle to the revolution of the wheel.

3. In this term, the students should also be taught how to straighten the spindle.

4. During this term, the students should also gain a comparative knowledge of the different types of charkha—such as the Bihar Charkha, the Yarvada Charkha, the Magan Charkha and the Savli Charkha.

5. At the end of the term, the speed of spinning on the takli (including winding) should reach 3 lattis of 16 counts yarn in three hours.

6. At the end of the term, the speed of spinning (including ginning and carding) 60 counts yarn should reach 2 lattis in 2 hours, and the speed of spinning (including carding) 28 counts yarn on the Magan Charkha should reach 3 lattis in one hour.

7. The daily average speed of spinning during this term will be $1\frac{1}{4}$ lattis of 60 counts yarn and 2 lattis of 28 counts yarn. The total production will be 45 goondis of 60 counts yarn weighing 6 chataks and 72 goondis of 28 counts yarn weighing 1 seer $4\frac{1}{2}$ chataks.

8. The wages for 60 counts yarn at Rs. 11-4-0 per seer will be Rs. 4-3-6 and the wages for 28 counts yarn at Rs. 3-10-0 per seer will be Rs. 4-10-3. The total earnings will be Rs. 8-13-9.

PROBLEMS CONNECTED WITH THE MECHANICS OF SPINNING.

1. Why does the pulley lean on the slanting side of the spindle ?

2. If the rate of revolution of the spindle is to be increased, which should be increased, the diameter of the driving wheel or of the intermediate wheel ?

3. Uses of the different kinds of mal (cotton, gut and leather). Principle of belting.

4. Uses of Jyotar.

5. Where should the handle of the carding-bow be fixed? Principle of balance.

6. The advantage of keeping the two mals of the Savli Charkha parallel.

7. Where should the handle be kept in the wheel of the Yarvada Charkha, according to the grain of the wood ?

8. What is the effect of and difference in the friction of wood on wood and wood on iron ?

9. Where should the pulley be set in the spindle ?

10. The differing effect of brass, ball, iron and wood bearings on the axle of the wheel, from the point of view of friction, with regard to iron axles and wooden axles.

Income per student for five years—

				Rs.	a.	p.
1st year	...	...	...	3	9	0
2nd year	...	...	...	9	5	3
3rd year	...	...	...	11	9	9
4th year	...	...	...	15	11	3
5th year	...	...	...	15	9	9
Total				55	13	0

Making a deduction of 25 per cent the total income for five years stands at Rs. 41-13-9.

Grades VI and VII.

Weaving Section.

1. The craft of weaving is so wide in scope that it is not possible to give the students a complete training in this craft in two years. Two alternative courses have been suggested. A school may provide for both the courses allowing the student to choose one. In either case, however, the course of two years will serve only as an introduction, and a student who wishes to have a complete knowledge of this handicraft should continue his training after this period.

2. At this stage the student will be only 13-14 years old. The course described is, therefore, of an elementary nature.

3. At the end of five years the student should have a fairly high knowledge of spinning. It has, therefore, not been included in the school time-table, but the students should continue to spin at home, and the school should make the necessary arrangements for the students to get the proper value of yarn produced at home—either in money or in cloth.

Grade VI.—First year.

Weaving.

1. The course of weaving has not been divided into half-yearly terms, but into two terms of a year each, in consideration of the special nature of the craft of weaving.

2. The following processes should be taught to the student in the first year :—

- (a) Winding.
- (b) Reeling.
- (c) Piecing.
- (d) Warping (on the warping frame).
- (e) (i) Spreading and distributing.
- (ii) Sizing.
- (f) Double-warp weaving (on the hand-loom).

3. At the end of the year the speed in the above processes should be as follows :—

- (a) Winding ... 5 goondis in an hour.
- (b) Reeling ... 3 goondis in an hour.
- (c) Piecing ... $2\frac{1}{2}$ punjams (60 holes of a reed) in an hour.
- (d) Warping ... $2\frac{1}{2}$ punjams (60 holes of a reed) in an hour.
- (e) (i) Spreading and distributing. } Both the processes in 3 hours.
- (ii) Sizing ... }
- (f) Weaving (with filled bobbins) ... 2 yards in 3 hours.

4. In a year the total length of cloth woven by each student with all the processes should be 108 yards. Wages at the rate of Re. 0-12-6 per piece of 10 yards will be Rs. 8-7-0.

Grade VII.—Second year.

Weaving.

1. In this year, too, the student should continue the training of double warp weaving—but he should also be taught pattern-weaving, such as honey-comb towels, coloured coatings, etc.

2. During this year, the student should learn to calculate, with the correlated theoretical knowledge, the particular count of yarn necessary for a particular type of punjam.

3. The speed of weaving at the end of the year (on the fly-shuttle loom with filled bobbins) should be $3\frac{1}{2}$ yards in three hours.

4. The total amount of cloth woven in the year by each student should be 216 yards.

Wages at the rate of Re. 0-1-3 per yard will be Rs. 16-14-0.

Income per student for 2 years—

				Rs.	a.	p.
1st year	...	...	...	8	7	0
2nd year	...	...	...	16	14	0
Total				25	5	0

Deducting 25 per cent, the income for two years amounts to Rs. 18-15-9.

Grade VI.—First year.

Tape and Durree weaving.

1. In this department the students should be taught the following processes :—

Twisting the yarn.

Rope-making.

Preparing the warp.

Preparing the heddle.

Weaving tapes, durrees, asans, and carpets of different designs.

2. In the first year the students should be taught to weave white and coloured tapes, lace, white and coloured asans, and white durrees.

3. Different rates of wages are paid for the weaving of tapes and durrees and the wages are higher than the wages for the weaving of ordinary cloth. However, for the purpose of calculation, the wages for weaving this year has been reckoned at Rs. 8-7-0.

Grade VII.—Second year.

Tape and durree weaving.

1. During this year the students should be taught how to weave coloured durrees and carpets. The whole year will be devoted to this work as the durrees and carpets will be of different designs.

2. The wages per student for the year have been reckoned as the same as the wages for ordinary weaving, i.e., Rs. 16-14-0.

PROBLEMS CONNECTED WITH THE MECHANICS OF SPINNING AND WEAVING.

1. The principles of lever—

The uses of the different kinds of levers should be explained by practical work in connection with the hand-loom.

The uses of the lever in the loom for shedding motion.

2. Principles of wedge and corkscrew, practically, in connection with the ginning machine.

3. What will be the effect on the count of yarn and speed of spinning, if the spindle of the takli be made of wood instead of iron?

4. What will be the effect on the speed of spinning if the disc of the takli is light or heavy?

5. What is the relation, and proportion in size and length of the spindle and the disc?

6. What should be the position of the disc on the takli?

7. Advantages and disadvantages of the U and V shaped pulleys.

8. Necessary information re: deflection of beams. What is the effect of graining on strength of wood?

9. Principle of crank in connection with the Magan Charkha.

GENERAL MECHANICS.

1. The advantage of supporting the upper wheel of the mill on the central pin. A lever can be used for increasing or decreasing the pressure on the lower wheel.

2. The pulley used for drawing water from the well is a kind of lever.

3. What is the difference in strength between horizontal, upright and sloping pillars?

4. The pendulum of the clock.

5. Resultant of forces—to be taught by practical application.

BASIC CRAFT (C): CARD BOARD, WOOD AND METAL.

The course has been divided into two parts :—

- (a) A course of card board work.
- (b) A course of wood and metal work.

1. As children under nine are not able to handle hard materials such as wood or metal, or the more difficult tools necessary for wood or metal work, card-board work should be taught as the basic craft for the first two grades of the course.

2. Wood work should begin in grade III and work with metals used in connection with wood work should be introduced in grade V.

3. In grades VI and VII the student may choose either wood or metal work, according to his natural inclination.

4. There is also an optional course of wood and metal work as basic craft for grades VI and VII, and an optional course of card-board work for three months in grades VI and VII.

5. In order to draw the fullest educative value from card-board and wood work as a basic craft, the following conditions must be fulfilled :—

- (i) The system of instruction to be employed should be methodical, and must be imparted by trained teachers in a systematic way. Skilled artisans cannot be expected to convey to the students the fullest educative value and implication of the training in handicraft.
- (ii) A well-chosen pedagogical series of models of exercises should be furnished as a guide for instruction. These models must be useful objects which can be used in daily life, but they must also be simple and beautiful from the aesthetic point of view. Therefore this series of models must, from its very nature, vary in the light of its utility in rural and industrial areas.

CARD-BOARD WORK.

Grade I.

Time required—2 hours per day.

1. Practical—

A series of exercises which mean the modification of materials, e.g. card board, paper and cloth, by means of one or more tools or instruments in a prescribed way and for a

particular end. Thus the method embraces say 20 models, of which at least eight must be made by every scholar during the first year of schooling :—

- (1) Routine board (for school or class use).
- (2) Box for collection of specimens (nature study work).
- (3) Simple albums for—
 - (a) History work.
 - (b) Nature study work.
- (4) Blotting-pad—
 - (a) Simple,
 - (b) Double,
 for use in school and also for sale.
- (5) Portfolio.
- (6) Note-book binding.
- (7) Book-carrier.
- (8) An extra model.

2. Theoretical—

- (1) Tools and their uses.
- (2) Simple measurements involving the use of—
 - (a) Inch, foot and the metric system.
 - (b) Weights—seers, chataks and tolas.
- (3) Counting—simple problems in addition and subtraction.
- (4) Recognition of simple geometrical forms.

CARD-BOARD WORK.

Grade II.

Time required— $2\frac{1}{2}$ hours per day.

Drawing—

Introduction; necessity for drawing; method of preparing such drawings.

Use of the following instruments: rule, set-square, compass.

Parallel, perpendicular, oblique lines, and lining in.

Circle—centre, radius, circumference.

Square, quadrangle, sexagon, octagon.

Graphical representation of the children's own work.

Practical—

1. Colour decorations on hand-made paper for mounting.
- Each child should make at least half a dozen sheets of paper.

2. Execution of any eight of the following models :—

- (a) Sliding box for keeping brushes, pencils, pens, etc.
- (b) Slanting quadrangular tray for keeping nibs, pencils, pens, etc.
- (c) Sexagonal tray for the same purpose; paper mounting.
- (d) Sexagonal box with cover (cloth mounting).

N.B.—Models of nos. (c) and (d) should be given to the student to serve as a model in his future private activities.

- (e) Box with hinged cover.
- (f) Sexagonal box with hinged cover.
- (g) Blotting pad.
- (h) Portfolio—
 - (a) Simple.
 - (b) Complex.
- (i) Round box.
- (j) Two boxes of different kinds.
- (k) Album, simple, with pad leather covering.

WOODWORK.

Grade III.

Time required—3½ hours, with an interval of ten minutes.

Theoretical and practical work combined.

1. Tools and their uses.
2. Execution of at least seven exercises (selection must be the student's—design to be supplied).
3. Two extra models from the student's own design.

N.B.—In schools belonging to rural areas, the following models are suggested.

- (a) Handle of *khurpi*.
- (b) Ladder.
- (c) Small stool for water vessel.
- (d) Stand for filtering water.
- (e) A small desk for writing and reading.
- (f) (i) A small bookshelf (open), (ii) rack for keeping clothes, (iii) alna, (iv) wall rack.
- (g) A corner shelf for keeping household things.

(h) A simple wooden cot.

(i) A wooden box according to requirements.

4. Sawing, planing, method of sizing, boring, grooving, simple joinings. All these should be taught through making the objects or exercises of the pedagogical series.

WOODWORK.

Grade IV.

Time—3½ hours daily, with an interval of ten minutes.

Practical—

1. (a) Ten models to be executed.

(b) Two additional models from the student's own drawing.

(c) Four kinds of joinings.

2. Drawing and graphic representations of the exercises—

(a) How to draw lines.

(b) The use of the set-square.

(c) Erecting perpendiculars.

(d) How to obtain various angles.

(e) Method of setting the compass.

(f) Use of the compass and drawing board.

(g) Use of rubber.

(h) Use of T-square.

3. Orthographical projection—

(a) The dihedral angles.

(b) Analysis of models.

(c) Definition of the following: point, line, angle, square, circle (centre, radius, circumference).

Theoretical—

1. Growth of trees—

(a) Notes dealing with seasoning, shrinkage.

(b) Parts of growing trees.

(c) Seeds, germination.

(d) Roots and their functions.

(e) Root food in soluble form.

(f) Ascending sap.

(g) Evaporation from leaves.

- (h) Carbon extracted from air.
- (i) Life-period of trees.
- (j) Time for felling.

Practical demonstration—

Transverse section of a tree—

- (a) Annual ring.
- (b) Cause of visibility of rings.
- (c) Composition of rings.
- (d) Heart wood.
- (e) Sap wood.
- (f) Bark and its use.
- (g) Growth of bark and pith.

Mechanics of woodwork—

- (a) Matter.
- (b) Measurement.
- (c) Metric system : (i) fractions, (ii) rule of three.
- (d) Weight (Indian system as well as international and English).
- (e) Density.
- (f) Specific gravity.
- (g) Force and work.
- (h) Graphic representation.
- (i) Parallelogram of forces.
- (j) Resolution of forces.
- (k) Mechanical devices.
- (l) Levers.

Geography of wood—

Kinds of indigenous wood—

- (a) Soft wood. Hard wood.
- (b) Reeds and bamboos.
- (c) Wood-growing provinces of India.
- (d) National income from wood.
- (e) Export and import.

N.B.—The theoretical instruction should be imparted as much as possible through the practical performance of the work. The theoretical terms should be pointed out only while drawing after the execution of a model.

[WOODWORK.

Grade V.

Time— $3\frac{1}{2}$ hours daily, with an interval of ten minutes.

Practical—

1. Execution of ten models or exercises.
2. Two extra models from the student's own design.
3. Colouring. High polishing.
4. Preparation of polish.

Theoretical—

1. Structure of wood—

- (a) Carbon (c).
- (b) Oxygen (o).
- (c) Nitrogen (n).
- (d) Hydrogen (h).
- (e) Sulphur (s).
- (f) Protoplasm.
- (g) Charcoal.

2. Proper introduction of metals used in connection with woodwork—

- (a) Iron—

The ore, smelting; nature of cast iron (experiment and test). Wrought iron. Conversion of cast iron into wrought iron.

Steel. Experiments.

Conversion of iron into steel.

Properties of steel.

Hardening and tempering.

- (b) Brass—

An alloy, zinc, 1 part, copper 2 parts by weight.

What is an alloy? Properties of brass.

- (c) Copper—

The ore. Process of extraction.

- (d) Zinc—

The ore. Process of extraction.

[WOODWORK.

Grade VI.

Time— $3\frac{1}{2}$ hours daily, with an interval of ten minutes.

During this year, the boys must work mainly on a productive basis, and can choose one of the two basic crafts, wood or metal.

Woodwork—

Execution of work (useful objects which must be saleable in the market).

Theoretical—

1. Notes on the parts of tools and how they are made.
2. Notes on seasoning timber—
 - (a) Tree containing sap.
 - (b) Condition of wood after cutting.
 - (c) Evaporation and shrinkage.
 - (d) Necessity for seasoning.
 - (e) Different methods of seasoning.
 - (1) Natural seasoning.
 - (2) Artificial seasoning. Hot water, running stream, smoke drying.
3. Elementary knowledge of costing of the articles.

WOODWORK.*Grade VII.*

Time—3½ hours daily, with an interval of ten minutes.

Practical—

1. Manufacture of articles saleable in the market and execution of commodities against local orders, if forthcoming. Each boy should be made so efficient as to earn Rs. 5 per mensem.

2. High polishing.
3. Carving.
4. Keeping accounts. Method of costing.

Theoretical—

1. The usefulness of wood in general.
2. Designing.

Proposed planned model or exercise series—**Group A.**

1. Wall-rack.
2. Propeller: (a) simple, (b) for actual use.
3. Sliding box for pencil, pen, brush, etc.
4. Stools of different kinds.
5. Writing desk.

6. Pot stand.
7. Flag stand.
8. Book stand.
9. *Alna* of different kinds.
10. Mallet.
11. Wooden trays of different shapes.
12. (a) Table, (b) Axe handle, (c) knife handle, etc.
13. Cot.
14. Corner shelf.
15. Small almirahs with doors.

Extra models as planned by the students.

Group B.

1. Spoons of various shapes.
2. Wooden trays out of one piece of wood.
3. (a) File carriers.
- (b) Wall-rack for lamp.
4. Candle stands of various shapes.
5. (a) Electric light stands of various shapes.
- (b) Hanging lamp shades of various shapes.
6. Simple writing table.
7. Portable folding table.
8. Boxes of different kinds and of different types of joining.

Extra models as planned by the students.

Group C.

Small boat.

Chairs.

Tables.

Clock frames.

Ladder.

Extra models as planned by the students.

The above lists are tentative suggestions. The models executed will vary according to local conditions and requirements.

SYLLABUS IN METAL-WORK FOR GRADES VI AND VII.

The underlying principles of introducing light metal work are the same as those for other work, viz., the modification of

materials such as iron, copper, brass, zinc, or any other alloy by means of one or more tools in a prescribed way, for a particular end or object.

List of some models to be executed, viz., the modification of materials such as iron, copper, brass, zinc, or any other alloy by means of one or more tools in a prescribed way, for a particular end or object.

LIST OF SOME OF MODELS TO BE EXECUTED.

1. Simple door lock.
2. Chain lock.
3. *Khurpi*.
4. Various stands of iron.
5. Paper-boring instruments.
6. Soldering instrument.
7. Screw-drivers.
8. Compass.
9. Chisel.
10. Farm knife.
11. Candle-stand.
12. Book-stand.
13. Wall candle-stand.
14. Match-stand.
15. Fruit-picker.
16. Ash tray.
17. Fruit tray.
18. Plate-stand.
19. Spoon (cooking).
20. Hanging lamp.
21. Farm rake.



At least two additional objects, which must be of the student's own design, must be executed. They must be useful objects.

Theoretical and practical work combined—

- (a) Oxidising.
- (b) Filling.
- (c) Hardening and tempering.

(d) Blackening process.

(e) Cleaning and polishing.

AN OPTIONAL COURSE IN CARD-BOARD WORK FOR THE STUDENTS OF GRADE VII.

Those who have already taken card-board work during the first two years of the basic course should be given an opportunity of repeating the work in card-board, and of applying the higher technique acquired through their training in wood and metal work. Those who have taken other basic crafts, viz., spinning and weaving should also have an opportunity of learning something of card-board work.

A THREE MONTHS' COURSE IN CARD-BOARD WORK.

Practical—

Series of exercises, pedagogically selected, of objects required in school and office.

1. Routine board.
2. Pencil tray.
3. Pencil box.
4. Sexagonal tray.
5. Blotting pad (simple).
6. Blotting pad with case for paper.
7. Letter carrier.
8. Card-board box (standing).
9. Portfolio : (a) simple, (b) complex.
10. Boxes of different shapes.
11. Note-book binding.
12. Album.

Theoretical—

1. Point, line, angles, perpendicular, parallel lines, square, circle (centre, radius, circumference).
2. Drawing graphical representations of works or models made.
3. Measurement : inch, foot, the metric system.

AN OPTIONAL COURSE IN WOOD OR METAL-WORK DURING THE LAST
TWO YEARS OF THE BASIC COURSE.

Grades VI and VII.

Time— $3\frac{1}{2}$ hours daily, with an interval of ten minutes.

Theoretical—

1. Introduction to tools.—Their use and how to handle them.

2. Introduction to drawing instruments.—Their use and how to handle them.

3. Demonstration of the use of drawing instruments on parallel, perpendicular, and oblique lines.

Method of setting the compass.

Projection.—Plans, elevation and section.

Circle.—Centre, radius, circumference.

Square, quadrangle, sexagon, octagon, etc.

4. Graphical representation of one's own work.

Practical—

1. At least 15 models are to be executed by each student, and

2. through models, eight different kinds of joining.

3. Polishing.

4. Colouring.

Theoretical and practical demonstration in the following :—

1. Matter.

2. Measurement.

3. Metric system : (a) fractions, (b) rule of three.

4. Weight (Indian system as well as international and English).

5. Density.

6. Specific gravity.

7. Force and work.

8. Graphic representation.

9. Parallelogram of forces.

10. Resolution of forces.

11. Mechanical devices.

12. Lever.

LIST OF NECESSARY EQUIPMENT.

EQUIPMENT FOR CARD-BOARD WORK FOR A GROUP OF THIRTY STUDENTS TAKING THE OPTIONAL COURSE IN GRADE VII.

			Rs.	a.	p.
1	Working table	...	40	0	0
2	Almirahs	...	50	0	0
30	Knives	...	15	0	0
2	Working benches	...	15	0	0
30	Scales	...	15	0	0
4	Iron squares (flat)	...	5	0	0
30	Working boards	...	45	0	0
30	Paper-cutting knives of bamboo or hard-wood.		7	8	0
10	Scissors	...	4	12	0
	Materials :—Paper, card-board, cloth, leather, etc.		60	0	0
			260	4	0

EQUIPMENT FOR A GROUP OF FIFTEEN BEGINNERS IN THE CARD-BOARD CLASS.

			Rs.	a.	p.
1	Almirah	...	25	0	0
15	Knives	...	10	0	0
2	Working benches	...	12	0	0
1	Working table	...	12	0	0
15	Scales	...	7	0	0
2	Iron squares	...	2	8	0
15	Working boards	...	22	8	0
7	Scissors	...	2	0	0
17	Paper-cutting knives of bamboo	...	5	0	0
	Materials :—Paper, card-board, cloth, leather, etc.		38	0	0
			136	8	0

**EQUIPMENT FOR WOOD WORK FOR A GROUP OF FIFTEEN STUDENTS
TAKING THE OPTIONAL COURSE IN GRADES VI AND VII.**

	Rs.	a.	p.
15 Single or 8 double working benches :— framed tops, hard wood, fitted with cupboard for keeping tools, with two vices.	250	0	0
15 Saws of different types	45	0	0
30 Planes	98	0	0
15 Scales or foot rules	15	0	0
15 T-squares	20	0	0
15 Knives	15	0	0
5 Screw drivers	5	0	0
1 Grinding stone	6	0	0
2 Hand drills	6	0	0
15 Mallets	15	0	0
1 Set of bits	18	0	0
15 Gauges	15	0	0
5 Compasses	2	8	0
40 Chisels (with handle)	28	0	0
1 Pincer	2	8	0
15 Iron Scrapers	15	0	0
10 Punches of different types	8	0	0
Miscellaneous	50	0	0
Nails, screws, wood, etc.	300	0	0
	<hr/>		
	914	0	0

**MATERIALS AND EQUIPMENT REQUIRED FOR A GROUP OF FIFTEEN
STUDENTS TAKING THE COURSE OF METAL-WORK IN GRADES
VI and VII.**

- 3 Anvils.
- 15 Vices.
- 15 Hammers.

- 1 Bellow.
 20 Files of different types.
 1 Drill.
 1 Plate cutter.

	Rs.	a.	p.
Miscellaneous (Appr.) ...	500	0	0
Materials :—Copper, iron & brass sheets, etc.	100	0	0
Total ...	600	0	0

N. B.—The above prices are only approximate, and will vary from place to place according to local conditions.

Class Rooms.

Card-Board Working Room for a group of 30 pupils.

Closed space required :—45 ft. by 25 ft.

Wood-working room.

The shape of a wood-working room depends on the arrangement of the benches. A room of 60 ft. by 24 ft. is a good size for accommodating 30 pupils at a time and 45 × 25 for a group of fifteen.

There should be a closed store-room attached to the working-room.

Metal-working room for a group of fifteen students.

Space required :—45 ft. by 25 ft., with a closed store-room.

N. B.—Drawing work may be done in the card board working room.

2. MOTHER TONGUE AND HINDUSTANI.

NOTE.—Hindustani written in Devanagri or Urdu script will be the mother tongue for the majority of the schools in the Province, except for those situated in such parts of it where the mother tongue may be a language other than Hindustani, such as Bengali and Oriya.

Schools with Hindustani as the mother tongue will have common text-books in the two scripts in the earlier grades. For the higher grades, however, the two literary forms of

Hindustani, viz., Urdu and Hindi, should receive due consideration and the text-books prescribed should provide for this. In the Hindi literature text-books, for instance, the bulk of the reading matter prescribed may be from Hindi including typical prose and poetry selections. But these books should contain a portion, say one-fourth, consisting of lessons in the common language and of transcriptions in Devanagiri of simple selections from Urdu literature. Similarly, in the Urdu literature text-books, the bulk of the reading matter prescribed will be from Urdu including typical prose and poetry selections. These books should contain a portion, say one-fourth, consisting of lessons in the common language and of transcriptions in Urdu of simple selections from Hindi literature.

Grade I.

1. Oral self-expression.—

Conversation centring in names and description of different parts of the human body, clothes, classroom, equipment and processes in craft work, natural phenomena, events in daily life.

2. Stories.—

(a) Myths and legends.

(b) Folk-tales.

(c) Nature myths. Simple stories about natural phenomena.

(d) Fables and stories of different lands.

(e) Stories of life in different lands.

(f) Tales of primitive man and life in ancient times.

(g) Stories of school life and family life.

N.B.—Items (e), (f) and (g) will also cover the syllabus in social studies.

3. Recitation of simple poems.

4. Dramatisation.

5. Ability to read and write simple words and sentences.

The work in mother tongue will be mostly oral during the pupil's first six months in school.

Grade II.

1. Oral self-expression :—

- (a) Extension of the child's vocabulary—recapitulation of new words and expressions learnt by the children in their craft work, mathematics, nature-study and social studies.
- (b) Descriptive self-expression.—Describing objects, people and happenings within the child's environment, describing the different village crafts and occupations, fairs, festivals, etc.

2. Recitation and dramatisation.

3. Stories.—

A continuation of the syllabus outlined in Grade I.

4. Reading.—

Simple books which should contain lessons on the following :—

- (a) Life in nature (bird life, animal life, life in water, etc.).
- (b) The child's social environment, his home, school and village.
- (c) Health and hygiene.
- (d) Local agencies of community welfare.
- (e) Crafts.
- (f) Festivals.
- (g) Stories and legends.
- (h) Life of children in other lands.

5. Writing.—

- (a) Simple words and sentences.
- (b) Calligraphy and writing from dictation.

Grade III.

1. Oral self-expression.—

Continuation of the work detailed in Grade II, telling of simple stories,

2. Reading.—

Simple books whose material should be on the same lines as those outlined in the syllabus for Grade II together with life stories of some great benefactors of mankind, e.g., Rama, Krishna, Budha, Christ, Muhammad.

(a) Reading aloud with special attention to clearness of pronunciation and expression.

(b) Silent reading of easy passages.

3. Writing.—

(a) Writing—calligraphy and writing from dictation.

(b) Writing of simple letters, descriptions and stories.

(c) Daily record of weather observations.

4. Recitation and dramatisation.

Grade IV.

1. Oral self-expression.—

In addition to work outlined in Grades I, II and III—

(a) Making of short speeches on a given subject in connection with craft work, social studies and general science.

(b) Taking part in discussions on subjects of living interest.

N.B.—The above two purposes can be fulfilled by starting a discussion group or a debating club for the members of Grades IV and V.

2. Reading.—

The reading material in Grade IV, in addition to the topics already outlined in Grade III, should contain the following:—

(a) Stories of village crafts and craftsmen. Stories of important arts and crafts in different lands and ages, e.g., building, cloth making, pottery, etc.

(b) Stories of great inventors and inventions.

(c) Stories of great discoverers and discoveries.

(See the syllabus in Social Studies.)

(d) Life of people in certain typical regions of the world,

- (e) Stories of some great benefactors and liberators of mankind, e.g., Zoroaster, Socrates, Robert Bruce, William Wallace, Garibaldi, Husain, Lincoln, Pasteur, Davy, Franklin, Joan of Arc, Florence Nightingale, Bralle, Tolstoy, Booker Washington, Sun Yat Sen, Gandhi, De Valera, Masyrick (to be covered in Grades IV and V).

N.B.—All these topics will be closely correlated with work in Social Studies.

3. Writing.—

- (a) Creative writing—Stories, original compositions.
- (b) Calligraphy and writing from dictation.
- (c) Writing of simple and business letters.
- (d) Keeping a daily and monthly record of individual and class progress in the basic craft and other interesting experiences.
- (e) Contribution to a magazine for junior pupils (Grades IV and V) and preparing a news bulletin.

N.B.—Amongst other topics, this magazine should include the following:—

- (a) A monthly record of the progress of the class in the basic handicraft.
- (b) Daily and monthly weather reports.
- (c) Health reports of class, family and village.
- (d) Report of geographical and social survey.
- (e) Current events.
- (f) Pupils' holiday experiences.

Grade V.

In addition to the work—oral, written and reading—outlined in the syllabus for Grade IV which will be continued, the following new items will be introduced:—

- (1) A simple and practical knowledge of the construction of the mother tongue and the function of words.
- (2) The use of the dictionary, the list of contents and the index, etc.

- (3) An introduction to Basic Hindustani, and its relation to the child's own language. Learning of the Urdu or Hindi script whichever is new to child (for pupils with Hindi or Urdu as the mother tongue) or one of them at his or her option (for others). Simple conversation—Primer and first reading in Hindustani (in Urdu or Hindi script, as the case may be).

Grade VI.

1. General reading:—

Individual reading on general subjects under the guidance of the teacher of simple books, pamphlets and articles dealing with topics outlined for Grades IV and V together with the following:—

- (a) Recent geographical expeditions, e.g., Everest, North Pole, Nanga Parvat.
- (b) Work of community welfare and community hygiene, including illustrations from other countries.
- (c) Agriculture in India and in other lands. The life of the farmer in India and in other lands.

2. Study of Literature:—

- (a) A representative collection of selections from the literature in the mother tongue.
- (b) Selections from the masterpieces of various Indian literatures. (Literary translation in the child's own language.)

3. A more advanced study of the structure of the child's own language:—

Formation of words.

Formation of sentences.

Symmetry of structure—elements of good style.

4. Self-expression—oral and written:—

In addition to the syllabus outlined for Grades IV and V—

- (a) Preparing a daily news-sheet.
- (b) Editing a senior school magazine, for Grades VI and VII.

- (c) Preparing notices, announcements and advertisements.
- (d) Filling up business forms.
- (e) Writing letters of social utility—invitation, condolence, apology, etc.
- (f) Ability to give a short speech or to take part in a discussion on a given subject.

5. A more advanced study of Basic Hindustani :—
 Second Reader.
 Writing.
 Simple conversation.

Grade VII.

- VI. 1. General reading as outlined in the syllabus of Grade

2. Study of Literature :—

- (a) A more advanced selection from the best writers in the child's mother tongue, arranged chronologically and with a simple presentation of the history of the literature of the mother tongue.
- (b) A more advanced selection from the masterpieces of various Indian literatures.
- (c) A selection from the masterpieces of world literature translated into the child's mother tongue.

N.B.—These text-books should also include :—

- (a) A few passages of advanced literature for intensive study.
- (b) Extracts from the scriptures and religious writings of the principal world religions.

3. A more advanced study of the structure of the child's own language with an elementary study of the history of that language and its relation to the other languages of India.

4. Self-expression in speech and writing :—

- (a) Continuation of the work outlined in the syllabus for Grade VI.
- (b) Preparing reports of completed work, such as health campaign, village sanitation project, etc.
- (c) Preparing plans of instructions for a proposed piece of work.

- (d) Preparing a small pamphlet on any subject chosen by the student himself.
- (e) The senior students (thirteen to fourteen years) will organise their own discussion groups and dramatic clubs like the juniors (ten to twelve years). These senior discussions and entertainments should be more intimately related to the life of the village and should make an attempt at attracting the adult population of the village.

During the last two years, the students will be expected to organise programmes of socially useful work in the villages such as adult education, health campaigns, the celebration of national and cultural festivals, etc. These should provide occasions for the students to give short and simple talks to the villagers on practical subjects.

5. A more advanced study of Hindustani:—

- (a) Ability to make a short speech and to engage in conversation.
- (b) Writing simple and business letters.
- (c) Reading simple books, periodicals and newspapers.

3. MATHEMATICS.

Grade I.

First term—

- (1) Counting up to 100 (with concrete objects); giving an idea that our system of counting is based upon units of ten.
- (2) Counting by tens, fives and twos up to 100.
- (3) Recognition of big and small numbers at sight.
- (4) Writing of numbers up to 20.

Second term—

- (1) Counting up to 160 (with concrete objects)—extension of the idea of the decimal system in counting.
- (2) Mental addition and subtraction. The answer should not exceed ten. Thorough mastery of addition and subtraction tables up to 10 is necessary.
- (3) Meaning of signs + and —; addition of several twos, threes, fours, fives and sixes—the sum not exceeding 50; subtraction from fifty of several twos, threes, fours, fives and sixes.

- (4) Simple problems in addition and subtraction up to 10.
- (5) Writing of numbers up to 160.
- (6) Simple measurements involving the use of (a) yard, foot, inch and hath (18"), (b) seers, chhataks and tolas.
- (7) Recognition of simple geometrical forms :—straight lines; curved lines. A straight line as the shortest distance between two given points.

Grade II.

- (1) Numeration and notation up to 999; place value of figures to be taught.
- (2) Addition and subtraction tables up to 20.
- (3) Addition of two and three figure numbers in vertical and in horizontal columns, the sum not exceeding 999.
- (4) Subtraction from any two or three figure numbers.
- (5) Multiplication tables up to 10 by 10; meaning of signs \times and \div .
- (6) Simple multiplication of numbers, the result not exceeding three digits.
- (7) Short division of numbers up to three digits by numbers up to 9.
- (8) Practice in measuring lengths and weights. Tables of money : rupee, anna, pice and pie. Tables of weight : panseri, seer, chhatak and tola or corresponding local measure. Tables of length : yard, foot, inch, hath, goondi, latti, kalli, etc. The use of the ruler.
- (9) Recognition of common polygons :—Square, rectangle, triangle and circle.

Grade III.

- (1) Numeration and notation of numbers up to 7 digits. Place value must still be carefully taught.
- (2) Addition and subtraction to be continued. Practice in the processes and in problems of every day occurrence.
- (3) Multiplication tables up to 16 by 16.

- (4) Multiplication (long), the result not exceeding 7 digits.
- (5) Long division, by numbers up to 3 digits.
- (6) Reduction (ascending and descending) in measures of money, length and weight.
 - (a) Rupee, anna, pice, pie.
 - (b) Yard, foot, inch; gaj and girah (cloth measurement).
 - (c) Seer, chhatak, tola.
- (7) Simple problems in compound addition and subtraction.
- (8) Indian system of writing :—
Rs. as. p. and mds. seers and ch.
- (9) Idea of fractions, $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$.
- (10) Construction by manipulation of concrete objects and learning of the fractional tables of $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ up to 20.
- (11) Recognition of angles :—(acute, obtuse and right).
- (12) Recognition of common solids :—
cylinder, cone, sphere, cube.
- (13) Tables of weight, length, capacity and time. Seer, panseri, maund, kandi. Yard, pole, furlong, mile. Local measures of capacity. Second, minute, hours (using the clock) day, week, month, year.

Grade IV.

- (1) Notation and numeration complete: the idea of place value of figures to be completed with special reference to the recognition and writing of figures involving the symbol zero.
- (2) Four simple rules complete; factors and the use of factors in multiplications and divisions.
- (3) Compound addition and subtraction.
- (4) Compound multiplication and division.
- (5) Addition, subtraction, multiplication, and division of Rs. as. p. and mds. seers and chs. by the quarter system.
(*N.B.*—The division must be by a whole number and not by a fraction.)
- (6) Simple fractions of denominators, 10, 12, 14, 16 and 20.

- (7) L. C. M. by factors of the above.
- (8) Addition and subtraction of fractions of denominators given above.
- (9) Comparison of British and Indian measures of weight, e.g.,—pound, seer, ton, gallon.
- (10) Subhankari—Arjas (formulae for calculation) in connection with tables of measures learnt in the 3rd and 4th years.
- (11) Book-keeping :—Keeping of stock-book for individual craft work.
- (12) Square measure, area of a square and rectangle. In this connection students will learn how to draw—
 - (a) perpendicular to a given line,
 - (b) a parallel line to a given straight line,
 - (c) to bisect or trisect a line.

Grade V.

- (1) Revision work in the four fundamental rules, simple and compound.
- (2) L. C. M. and H. C. F.
- (3) Vulgar fractions complete (complex fractions to be avoided).
- (4) Simple and compound practice.
- (5) Unitary method.

Book-keeping—

- (1) Budgeting (home, farm and festivals).
- (2) Keeping of stock and record-books (for individual and class work).
- (3) Cash-book and ledger. (Cash transactions of goods and money relating to craft, school and home.)
- (4) Monthly statements of accounts. (Receipts and disbursements.)
- (5) Profit and loss account, where no stock is left at the end of the year.

Practical Geometry—

- (1) Calculation of areas :—Triangle, parallelogram.
- (2) Circle, ratio of the circumference to diameter, area of a circle.

- (3) Field work, drawing areas to scale. Bigha and acre compared.

In this connection the student will learn how to

- (a) make an angle equal to a given angle, (b) bisect an angle, (c) construct a triangle equal to a given triangle, rectangle or parallelogram and (d) find the centre of a circle or an arc.

Grade VI.

- (1) Reading and writing of decimal fractions.
- (2) Addition, subtraction, multiplication and division of decimal fractions.
- (3) The idea of approximation.
- (4) Percentages.
- (5) Simple interest.
- (6) Profit and loss.

Book-keeping—

- (1) Continuation of the work of grade V.
- (2) Transactions on credit and hundis.
- (3) Trial balance.

Practical Geometry—

- (1) Calculation of areas, continued from the 5th year's work. Field work in connection with patwari measurements of fields, etc.
- (2) Calculations of volumes :—
Cube, cuboid, cylinder.

This is to be taken in connection with earth-work, making of walls, digging wells, etc.

NOTE.—The pupil should actually determine the area of fields in the neighbourhood of the school by means of measuring chains, sticks and right angles according to the practice of the district.

Grade VII.

- (1) Revision and extension of previous work.
- (2) Ratio and proportion—rule of three.
- (3) Time, work and speed.
- (4) Simple equations representing rules and arjas for the calculation of areas, volumes, interests, etc.

(5) Graphs. Reading of graphs: representation in graphs of quantities and variations, etc., such as of rain-fall, temperature, etc.

(6) Square root.

(7) Simple methods of estimating heights and distances.

Book-keeping—

(1) Trading account.

(2) Profit and loss account.

(3) Balance sheet.

Practical Geometry—

(1) Revision of previous work.

(2) Formulæ for the calculation of areas and volumes.

(3) Drawing of areas to scale.

4. SOCIAL STUDIES.

Grade I.

I. The story of primitive man:—

How he satisfied his wants and developed the rudiments of civilised life.

(a) His shelter—caves, trees, lake-dwellings, etc.

(b) His clothing or natural protection—use of leaves, barks and skins, etc., leading gradually to wool, cotton and silk.

(c) His means of livelihood—hunting, pastoral life and primitive agriculture.

(d) His weapons and tools—wood, stone, bronze and iron.

(e) His means of self-expression—speech, primitive writing and drawing.

(f) His companions and help-mates—horse, cow, dog, etc.

N.B.—This account of the life of primitive man should be given in the form of stories and activities likely to appeal to children's imagination. Much of this will be embraced by work in teaching the mother tongue.

II. Life of man in ancient times :—

Ancient Egypt, Ancient China and Ancient India, to be given in the form of stories, e.g.,

- (a) The story of a common slave building the pyramids of Egypt.
- (b) The story of the first five Chinese Emperors.
- (c) The story of a boy in Mahenjo Daro.
- (d) The story of Shunah Shepa (Vedic period).

III. Man in distant lands :—

- (a) Bedouins, Eskimos, African Pygmies, Red Indians.
- (b) Arab, Chinese, Burmese, Nepali.

N. B.—Much of the work can be done orally in the time allotted to the mother tongue, in the form of stories and by dramatisation.

IV. Training for civic life :—

1. Life of the child in the school :—

Civic training will be imparted by practical training aiming at the development of the following attitudes and habits.

(a) Cleanliness and sanitation :—

- (i) Personal cleanliness (refer to the syllabus of General Science).
- (ii) Cleanliness of clothes.
- (iii) Proper use of latrines and urinals.
- (iv) Proper use of waste-paper basket and dustbin.
- (v) Keeping the class-room and the school cupboards clean.
- (vi) Care and proper use of the school drinking water.

(b) Social responsibilities :—

- (i) Proper greeting of teachers and school-fellows.
- (ii) Using of clean language.
- (iii) Asking and answering questions politely.
- (iv) Waiting for one's turn in speaking.
- (v) Making use of the queue system.

(c) Craft work :—

- (i) Proper use of work materials and equipment.
- (ii) Sharing materials and equipment with others.

(iii) Working in groups.

(iv) Waiting for one's turn.

(v) Leaving the class-room clean and replacing the material and equipment in proper order after work.

(d) Games :—

(i) Fair play (to refrain from cheating and deceiving).

(ii) To refrain from taking advantage over the weak.

(iii) Importance of truthfulness above all gain or victory.

(e) Discharge of responsibilities :—

Besides the above mentioned practical training, every child should have some definite responsibility in the school life, either individually or as member of a group. The following responsibilities are suggested for groups of children, between seven and nine years of age :—

(i) Cleanliness of class-room.

(ii) Cleanliness of the school compound.

(iii) Care of the school drinking water.

(iv) Collection of leaves, flowers, stones, feathers, bark, wood, etc., for the school museum.

(v) Helping to decorate the school for festivals, etc.

(vi) Entertaining the school and the village.

(vii) Helping new students.

2. The life of the child in his home :—

(a) The home as an ordered community, and the part played by every member in this unit.

The place of father and mother in the home.

The place of brothers, sisters and cousins in the home.

The place of other relations in the home.

The place of the servants in the home.

(b) The child's place in the family, and his responsibilities towards the elder and younger members.

(c) The proper discharge of particular duties assigned to him in the home.

V. Physical training:—

1. Posture drills.

(a) Sitting—secure good posture.

(b) Standing—secure good posture. Ease of movement when rising. Drill in quietness and ease of movement.

(c) Breathing, head up, chest out ; inhale, exhale through the nose.

(d) Dismissal : plan by which to save unnecessary waste of time, e.g., give commands : rise, stand, march, all march in single file.

2. (a) Playground games : non-equipment games common in the villages.

(b) Imaginative and imitative games.

(c) Rhythmical exercises.

(d) Folk dances.

Grade II.

1. Primitive life in modern times :—e.g., African aborigines, Australian Bushmen, Ceylon Veddas, Indian aboriginal tribes.

2. Life of man in ancient times :—

Ancient Hebrews, Ancient Romans, Ancient India (the period of the Upanishads).

To be given in the form of stories, e.g.,

The story of Moses, the story of Abraham.

The story of Marcus Aurelius and of Regulus the Roman.

The story of Nachiketa and Gargi.

3. Life of Man in distant lands.

The life of an Afridi boy.

The life of a boy in a Swiss village.

The life of a boy in Persia.

The life of a boy in Japan.

The life of a boy in England.

N.B.—Much of the work under headings 1 and 2 should be included with the work in the mother tongue in the form of stories, reading material and dramatisation.

4. Training for civic life :—

Observation of life in the village.

Food, clothing, housing, occupations, water-supply, the village bazar, places of worship, entertainments, fairs and festivals.

5. Practical :—

Practical civic training under the following heads :—

(a) The child in his school.

(b) The child in his home.

Under these two heads there will be a continuation of the work outlined in the syllabus of Grade I.

(c) The child and his village.

(i) Keeping the immediate neighbourhood of the home clean.

(ii) Keeping the village roads clean. (If possible, the children should put up simple dust-bins in different parts of the village, and persuade their family and friends to use them).

(iii) Refraining from dirtying the village well.

(iv) Entertaining the village by participating in school celebrations.

(v) Kindness to animals.

6. Physical Training :—

As outlined in Grade I.

Grade III.

1. Life of man in ancient times :—

Ancient India (Buddhist period), Ancient Persia,
Ancient Greece.

To be given in the form of stories, e. g. :—

Buddhist India :—

The story of Buddha.

The story of Asoka.

The story of Mahendra and Sanghamitra.

The story of a Buddhist missionary in Central Asia or China.

The story of a student of Nalanda.

Ancient Persia :—

The story of Kava, the blacksmith.

The story of the battle of Thermopylæ.

The story of an Indian physician at the court of Darius the Great.

Ancient Greece :—

The story of a Greek slave.

The story of Socrates.

The story of a young man taking part in the Olympic games.

The story of Pheidipides (Marathon race).

The story of Alexander.

The story of Megasthenes.

2. Life of man in distant lands :—

The story of a boy in New York.

The story of a boy in China.

The story of a boy in a Russian Kolhoz or collective farm.

The story of a boy in an Indian tea plantation.

N.B.—Much of the work under headings 1 and 2 will be included with the work in the mother tongue in the form of stories, reading material and dramatisation.

3. Study of the district (including a guided tour of the district, if possible), with reference to :—

Relief, general features, climate, crops, industries, local historic monuments, means of communication, places of worship, fairs, etc.

N.B.—During this tour, the work should be elementary and general. It should be carried further and made more precise during the industrial survey of the district to be carried out during the fourth year.

Practical work :—

(a) Important features to be filled in an outline map of the district.

(b) Making of plans : Making plans of the class-room, the school building, the school compound,

4. Study of the globe :—

Shape of the Earth.

Land and water spheres.

Principal sea-routes (to be studied on slate globe)—India to Europe, India to Far East, India to Australia, India to Arabia and Africa, Europe to America.

5. A study of the village community :—

(a) The village and its administration. The village officers. The village *punchayat*,—its functions.

(b) Village amenities—markets, dispensary, post office, cattle pound, roads, playground, nearest railway station.

6. Practical work :—

(a) Organisation of the school *punchayat* on the lines of the village *punchayat*.

(b) Organisation of social service groups, (boys and girls between the ages of 9 and 12) for the following civic activities.

7. Civic activities :—

(i) Protection and cleanliness of streets and wells.

(ii) Protection of crops from destructive animals.

(iii) Organisation of games and amusement for children under 9.

(iv) Organisation of entertainments for the children and adult population of the village.

(v) Participation in national and seasonal festivals.

(vi) Preparation of posters, signs, etc.

(vii) Volunteer-work in village fairs, festivals, etc.

8. Physical training—As before. More advanced games and *Deshi Kasrat* should be taught. Cubbing.

Grade IV.

I. The story of ancient times :—

(a) Ancient India, (b) Buddhist China, (c) Greater India, (d) Early Christians.

1. The story of ancient times—

(a) Ancient India.

The stories of Samundragupta, Kalidas, 'Arya-bhatta, an Arab merchant trading in India, an Indian trader carrying his merchandise to — foreign countries, Harshavardhana, Prithviraj, an Indian physician at Harun-ul Rashid's court.

(b) Buddhist China :

The story of the Chinese pilgrims, Fahien and Hiuen Tsang.

(c) Greater India :

The story of an Indian merchant or artist sailing to Java or Siam and settling down there for his work.

(d) Early Christians :

The story of Christ and the Early Christians: Syrian Christians.

II. Study of man's geographical environments—

1. An industrial survey of the district :

Practical : Preparation of a map of the industries of the district. Preparation of a " guide book " as a co-operative effort.

2. Geography of the Province with reference to its natural divisions, climate, agriculture, industries, communications.

3. Distribution of hunting, fishing and forest occupations in the world.

Practical work.—A relief map of the Province in clay or mud, as a co-operative effort; making of maps, charts, plans and diagrams.

4. The story of the explorations of the world. Marco Polo, Vascoda Gama, Columbus.

5. The various methods of ginning and carding used at different times and in different countries.

III. Training for civic life—

1. A study of the town as an organised community, with reference to the following points:—

(a) Relation to the village—mutual interdependence of town and village.

- (b) The administration of the town-municipality—rights and duties of citizens—taxes, police, law courts.
- (c) Social services: hospitals, child-welfare centres, libraries and reading rooms, post office, water-works, street lighting, playgrounds, *akharas*.
- (d) Places of worship; respect for all places of worship.
- (e) Amusements and entertainment: theatres, cinemas.
- (f) Centres of education; university, colleges and schools, industrial schools.

Practical work.—A guided trip to the nearest town, if possible.

2. Study of current events—

through the daily reading of newspapers in reading circles—correlated with map-study in Geography and with work in the mother tongue.

3. Practical.—

- (a) Organisation of self-governing units in the school on the principles of local self-government.
- (b) Organisation of social service groups with activities outlined in the syllabus for grade I.
- (c) Celebration of national, religious or seasonal festivals.
- (d) Organisation of newspaper-reading circles, and discussion groups on current subjects.

4. Civic activities—

Continuation of work outlined for grade III.

IV. Physical training. The work of the previous grade continued. Scouting.

Grade V.

I. The story of Muslim civilisation in India and the world—

- (a) Life story of Muhammad with the social and geographical background of Arabia.
- (b) Some heroes of early Islamic history: Omar, Ali, Husain, Caliph Abdul Aziz.

- (c) The beginning of Muslim contact with India—Muslim travellers and merchants—Muhammad bin Kasim, Khwaja Moinuddin Chisti.
- (d) The story of the development of Indo-Muslim culture (given through concrete examples).
- (i) Interaction of the Hindu and Muslim religions, through the story of Amir Khusro, Kabir, Guru Nanak, Akbar and Dara Shikoh.
 - (ii) Development of a common social life :—
Food, dress, amusements, common festivals, social customs and etiquette.
 - (iii) Development of a common political life and administrative system; Sher Shah, Akbar, Todar Mull.
 - (iv) Language and literature: Persian as literary and court language; Hindu writers and scholars of Persian, and Muslim writers and scholars of Sanskrit and Hindi; patronage of Sanskrit, Hindi and Bengali, etc., by Muslims; Development of Hindustani as a common language.
 - (v) Arts: Music: development of Indo-Muslim music: Amir Khusro, Tan Sen. Painting: Mughal, Rajput and Kangra Schools of Painting. Architecture: Kutub Minar, Fatehpur Sikri, Taj Mahal, Calligraphy and illumination of manuscripts.
 - (vi) Handicrafts: weaving, dyeing and printing, gold and silver smithy, lace-work, carpet-making, gardening.
- (e) Life stories of the following personalities with special reference to the social condition of their times: Alberuni, Ibn-i-Batuta, Feroz Shah Tughlak, Babar, Chand Bibi, Nur Jahan, and some mystics and saints, such as Dadu, Kabir, Nanak, Baba Farid.
- (f) Contribution of Islamic civilisation to the world—Ali (as a man and as a scholar); Balal (the negro democracy); Harun-ul-Rashid (patronage of learning); Salahuddin (representative of Muslim chivalry); Abdur Rahman III (Moorish culture

in Spain). Extent of the Muslim empire in the world (in correlation with geography).

II. Study of man's geographical environments—

1. Geography of India, with reference to its natural division, relief, climate, natural vegetation, crops, means of communication. Routes—Land, water and aerial. Industries, trade, population, political divisions and linguistic areas.

Practical work—

(i) Maps, charts and diagrams showing different features of the geography of India.

(ii) Map of the world showing the extent of the Muslim Empire.

2. A study of the different regions of the world with reference to the following occupations: commerce, agriculture and industries. Routes—steamship and navigation lines, international land and water highways, air routes.

Practical work.—Maps, charts and diagrams. Rain-gauge, weather observations.

3. Story of the discovery of the world.—Livingstone, Cook, Peary, Shackleton.

4. A history of the spinning technique in India and other countries (to be taken during the craft period). Oral information, discussion and written composition.

III. Training for civic life—

1. Study of current events through:

(a) Group reading of newspapers.

(b) Editing a daily news sheet.

(To be taken with the language period.)

2. A study of the district under the following heads:—

(a) District and local boards and the public utility services as organised and controlled by them; agriculture, irrigation, co-operative organisations; sanitation and public health; medicine and education.

(b) Administration: administrative subdivisions; the district officials and their duties—law courts and police.

(c) Agencies of social service.

(d) Means of entertainment and popular education.

3. Civic Activities.—Continuation of the work outlined in Grade IV.

IV. Physical Training—As before. More advanced games and scouting.

Grade VI.

I. History of India with special reference to the modern period.

1. (a) The story of the disintegration of the Moghul Empire—Shivaji and the rise of the Marathas.

(b) The decline of the Indo-Muslim culture.

(c) The story of the early European merchants, traders, soldiers and missionaries in India.

(d) The story of the British occupation of India.

(e) Ranjit Singh and the rise of the Sikhs.

2. The influence of the civilisation of the West on Indian culture to be studied with reference to the following aspects :—

(a) Religion.

(b) Social life.

(c) Political and economic life.

(d) Language and literature.

(e) Education.

(f) Industries, arts and handicrafts.

N.B.—The approach to this study should be concrete, i.e., through actual examples, not theoretical or philosophic.

3. A History of the Indian National Movement.

4. A History of the Textile Industry in India.—Its decay (to be taken in connection with the craft work).

II. Study of man's geographical environment.

1. An outline geography of the main regions of the world with fuller treatment of Eurasia (to show the reaction of geographical conditions on the life and occupations of the people).

2. Recent explorations—Everest expeditions, Russian expedition to the North Pole.

III. Training for civic life—

1. A detailed survey of the religious, social, economic and cultural life of the village, to be carried out by the students under the guidance of the teacher.

2. Practical work.—As the practical expression of the survey, the organisation of a senior social group, consisting of boys between the ages of 12—14 with the following activities as possible basic work:—

- (a) The systematic study of the region in the light of the economic and cultural needs of the people.
- (b) Sanitary and hygienic inspection of dwellings, village roads and wells, protection and cleanliness of the village drinking water and village roads.
- (c) Protection against flies, bed-bugs, malarial mosquitoes and other parasites.
- (d) Gathering of medicinal herbs and their cultivation for local distribution.
- (e) Organisation of popular lectures on health and hygiene.
- (f) Propaganda for preventive measures against infectious diseases.
- (g) Organisation of adult education in the villages—reading of journals and newspapers, organisation of *kirtans*, *kathas* and popular lectures. Spread of literacy.
- (h) Care of forests, groves and other natural beauty spots—care of old mosques, temples and other historical monuments.
- (i) Propaganda against all forms of injustice in the village.

(j) Organising centres of craft training for the adult population of the village.

(k) Organising national and religious festivals.

(l) Organising entertainments and games for the children and adult population of the village.

IV. Physical Training.—Continuation of work in the previous grade. Advanced scout craft, Jijitsu and *Lathi* play.

Grade VII.

I. The study of the Modern World.

1. Science in modern life.—Conquest of the forces of nature through scientific inventions and discoveries and their application to life :—

(i) Development of rapid means of locomotion—railways, motor cars, steamships, aeroplanes.

(ii) Development of rapid means of communication of ideas—press, telephone, telegraph, radio, television.

(iii) Development of modern industry—The Industrial Revolution.

(iv) Science and public health.

(v) Science and agriculture.

(vi) Science in everyday life—food, clothing, lighting, building.

(vii) Science and modern warfare: the misuse of power over nature.

(This aspect of modern history will be closely correlated with work in General Science.)

2. The story of industrialism and imperialism in the modern world :—

(i) Growth of industrialism and capitalism in the countries of the West and the growth of the industrial civilisation.

(ii) Growth of imperialism as a result of industrial civilisation. Exploitation of the races of Asia and Africa by the industrial nations of the West and by Japan.

(iii) The World War (1914-1918).

(iv) The story of socialism as a world force and as a reaction against capitalism and imperialism. The story of the U. S. S. R. as an experiment in industrial and socialist civilisation.

3. Democracy in the modern world—

(i) The meaning of democracy.

(ii) Democratic institutions and communities in Ancient and Mediaeval India.

(iii) The story of the American Republic.

(iv) The story of the French Revolution.

(v) The development of present Indian constitution in outline—its limitations.

(vi) The story of the suppression of democracy in Europe.

N.B.—These topics should be presented and studied in simple and broad outline with the object of giving the student a proper orientation towards the modern world.

II. Current events—

1. (a) The present international situation (in broad outline).

(b) Forces working for international justice and peace.

(i) The League of Nations, its activities and its failures.

(ii) Peace organisations.

2. The *Satyagraha* movement as a world force.—Its etiology, ideology, philosophy and practice.

3. Outstanding problems of modern Indian life—

(a) Social. Rural reconstruction.

The problem of untouchability and the Harijan movement.

Social reform amongst Muslims.

The position of women in modern India.

(b) Political. The history of the Indian National Movement (continued)—Indians overseas.

- (c) Economic. Decline of handicrafts and industries under British rule.

The problem of poverty in India: A study of the population problem.

Revival of handicrafts under the Swadeshi and the Village Industries movements. The beginnings of industrialisation in India.

- (d) Language. Multiplicity of languages in India: the importance of Hindustani as the national language.

- (e) Cultural. Movements for the revival of Indian culture—and national education.

4. An elementary knowledge of the economic geography of the world, with special reference to the countries with which India has economic relations.

(To be initiated by the study of the village bazar or the district fair.)

5. History of the technique of weaving in India and in other lands (in correlation with the craft of spinning and weaving).

6. Other important Indian crafts with special reference to Bihar.

7. Practical activities. Continuation of the work laid down for grade VI.

III. Physical training:—Work in grade VI continued.

5. GENERAL SCIENCE.

Grade I.

1. Naming and recognition of principal crops, trees, animals and birds in the neighbourhood.

2. Direction finding with reference to the sun; the seasons of the year; observation of changes due to change of season; effect on trees, plants, birds, insects, reptiles and man.

- (a) The colour of trees at different times of the year; the falling of leaves; chief parts of a plant; recognising the difference between a leaf, a root and a stem; the bulbs as store-house of future nourishment; potato, onion.

(b) Insects fewer in winter than in spring and rain.

Snakes during the rainy season. Where do they go in winter?

(c) Change in the clothing of man; how does clothing protect against cold?

3. We are surrounded by air at all times; air is a real substance; man breathes and lives in air; the air is in motion in the winds and in the school-room.

4. Sources of water (river, spring, tank, well); circulation of water; evaporation, sun, clouds, dew and rain; observations of loss of water through evaporation.

5. Fire must have air to burn; be careful with fire; don't run if clothing catches fire.

6. Developing habits of cleanliness; cleaning of the body; cleaning of the face, hands, nails and teeth; use of *Datwan*; cleaning of clothes; washing with various materials available in the villages.

(Insist on observation by the pupils. Organise frequent excursions. Prepare pupils beforehand for possible observations.)

Stories of how from the earliest time the world over, man has been observing the sun, the moon and the stars and utilising this knowledge for counting time and finding out direction. Stories about farmers, travellers, sailors and generals of armies; how they have profited by the knowledge of astronomy. The rising and setting of the sun and moon. The child is to be encouraged to observe that the same stars that set in the morning are to be seen to rise a little after sunset in the evening. Phases of the moon; the bright and the dark half of the months, what they actually mean. Observation of the exact point of sunrise and sunset and the rays of light as they fall from the window on the wall opposite; the winter solstice and the **summer** solstice (22nd December and 22nd June). Finding the northern point by observing the Pole Star and the Great Bear.

Observation of the eclipse of the sun and moon if there are any during the year.

Grade II.

1. Recognition of:—

- (a) General form and size.
- (b) General form of the stem and bark.
- (c) General form of the leaf.
- (d) General form, size and colour of the flower.
- (e) General form and size of the fruit and seed of at least five common trees of the neighbourhood.

2. Recognition as in (a) to (e) above of at least 10 vegetables and crops grown in the neighbourhood; knowledge of the time of sowing and harvesting and the period of germination.

3. General appearance, mode of locomotion, food, and the call or cry of at least four domestic and three wild animals of the neighbourhood. Pond life; the frog and the fish. How they breathe; from the tadpole to the frog.

4. Birds; general form, size, colour, mode of flight, nesting and feeding; breeding season, size, form and colour of eggs of at least five birds usually found in the neighbourhood; making a bird-fountain and a bird-table in the school-yard.

5. Observation that there is dust in the air; haze due to dust on a summer day; the dust storm, beam of sunlight in a semi-darkened room; diseases caused by dust, how to minimise dangers due to dust.

6. Water—Its importance to plant, animal and human life; pure and impure water, common infections carried by water; the village well. (In 1 to 6 insist on direct observation; direct the pupils' attention to what he has to observe.)

7. Practical directions as regards breathing through the nose; value of fresh air, healthy habits of sleep.

8. The day, the month and the year are not arbitrary units but they depend on natural astronomical phenomena. The day caused by the earth's rotation round its axis; the division of a day into 24 hours or 60 *ghatis*, the latter being a more natural unit.

The month caused by the moon's circling round the earth from full moon to full moon or from new moon to new moon, the month being made up of nearly 30 days.

The Seasons:—winter, spring, summer, rains, autumn.

The eclipses of the sun and the moon. What causes them?

Grade III.

1. Plants require food, water and sunlight.

Comparative produce of equal plots with different manure, water and light provision.

Water dissolves substances; food of plant in solution; function of roots, stems, leaves, flowers and seeds.

2. Seeds and germination; at least 3 seeds, one from each of the following groups:—

(a) maize, wheat, barley,

(b) pea, cotton, pulses,

(c) neem, castor

(to show the difference between dicot and monocot seeds and that between hypogeal and epigeal cotyledons). How seeds are scattered: by wind, animals, by force from the fruit, by water.

3. At least three domestic animals in more detail: the cow, the cat, the dog; how they care for their young.

Interdependence in nature; animals dependent on plants; man dependent on plants and animals.

4. Spiders and insects in the neighbourhood, recognising these; their food, home and habits; house-fly; from eggs, larva or maggot; pupa to the fly; the breeding places of the fly; fly the propagator of dirt and the carrier of disease; how to get rid of the flies that infest the homes.

5. Experiments to show the difference between air breathed in and air breathed out; nature of combustion; importance of ventilation.

6. Pure and impure water; how to purify water, decantation, filtration and boiling.

7. Cleanliness at home; disposal of night-soil, cowdung and filth; their value as manures.

8. Wholesome food and healthy eating habits; proper sleep and exercises.

9. (Extended over Grades 3 and 4.)

As in no. 7 of Grade 1 and no. 8 of Grade 2, but in greater detail.

The most important and characteristic constellations and their fancied shapes.

The students should be encouraged to observe and draw the figures of the constellations. They should be asked to make their own groupings of the stars.

Grade IV.

1. Plant physiology; leaves as organs of transpiration, respiration and carbon assimilation.

Roots and their functions; root hairs, how water passes into the roots.

2. The village pond; water birds, their food, habits, songs; where and how they nest; their migration.

3. Insect life, the mosquito, from the wriggler to the mosquito; mosquito and health problems; where do mosquitoes breed, malaria and its prevention; loss to the village community due to malaria; the bee and the ant; the division of work and social organisation.

4. Spiders, scorpions and snakes; the characteristics of spiders; how to distinguish them from insects; utility to man; destruction of harmful insects.

Recognition of poisonous and non-poisonous snakes; non-poisonous snakes as helpers of the agriculturists; first-aid measures in case of scorpion and snake bite.

5. The three states of matter: water as solid, liquid and gas; distillation and condensation.

6. Experiments to show that air is a material, a gas occupying space; experiments to show that air has weight and causes pressure; experiments to show that gases, liquids and solids expand and contract with change in temperature; experiments to show how evaporation cools.

7. Human physiology, the respiratory and the circulatory system; common infections and contagious diseases, cholera, plague, small-pox and malaria; how produced, how to prevent their spreading.

8. See under no. 9 of Grade III.

Grade V.

1. Continuation and recapitulation of plant and animal study with reference to :—

- (a) Flower, its parts and functions.
- (b) Seed and fruit formation.
- (c) Dispersal of fruits and seeds.
- (d) Methods of vegetative propagation of plants (cutting, grafting, layering, etc.).
- (e) Insects and birds that help in dispersal of seeds.
- (f) Poisonous and non-poisonous snakes, symptoms of poisoning and first-aid measures in case of snake and dog bites.

2. Different kinds of food and their nutritive value; the digestion of food, the digestive system; what to eat; when to eat; the common drinking cup, its dangers.

3. Air, its composition; impurities; its purification; the function of trees in purifying air; air in a crowded room; methods of ventilation; draught; atmospheric pressure.

4. Water: composition, impurities; its purification; cholera, dysentery, typhoid and guinea-worm (produced by impure water); precautions and safeguards.

Solution, solubility, saturated solutions, crystals.

5. Compass; magnetism; properties of a magnet.

6. Lightning and thunder; frictional electricity; simple voltaic cell; dry cell; electric torch.

7. Stories of eminent scientists, their search for truth.

8. The solar system :—the nine planets—The comets, the planets and their satellites, the rings of Saturn. The zodiacal light.

Geography of the moon; days when the moon is nearest to the earth and the day when the earth is nearest to the sun.

Grades VI and VII.

1. A thorough review of work done in previous grades.

2. A study of the acids, alkalis and salts with examples from everyday life,

3. A comparatively thorough knowledge of the human body, its parts and their functions. The human body a fortress—

- (a) Outer wall : the skin.
- (b) Watchmen on the wall; sense organs, sight, sound, smell, taste, touch.
- (c) The Fort :—
 - (1) Air—respiratory system.
 - (2) Posters—circulatory system.
 - (3) Food and its distribution—alimentary system.
 - (4) Sewage—excretory system.
 - (a) Skin.
 - (b) Kidneys.
 - (c) Breath.
 - (d) Bowels.
 - (5) Defence—Bacteria.
 - (6) Officers and intelligence—nervous system.

4. Health education to be particularly emphasised during these two years; preservation and improvement of health as against restoration; the preservation of health as an individual and social duty; causes of ill-health; ignorance, carelessness, poverty, intemperance in food, drink, work and pleasure. Tuberculosis, leprosy, their causes, symptoms and prevention; the individual suffering and social loss involved : the need for individual alertness and social control to prevent diseases; the pupils during these two years should undertake an active health campaign in the village.

5. All pupils before leaving school should have acquired :—

- (1) The daily bath habit.
- (2) The daily exercise habit.
- (3) The fresh air habit.
- (4) The moderation-in-all-things-habit.
- (5) The laughing habit.

6. The story of the earth and the story of the evolution of life to be told in a simple way.

7. The story of man's conquest of nature briefly and simply told. The story of the control of diseases. The story of communications and industries.

8. Simple mechanical appliances in the home, levers, pulleys and screw appliances, pendulum, clock, work and working capacity, steam engine, internal combustion engines, acquaintance with magnetism and the magnetic field. The electric battery, the electric current, the electric bell.

9. First-aid to the injured; punctured wounds, cuts and bruises, burns, accidents to the nose; dog bite, snake bite; fractures and dislocations; application of splints and bandages; foreign bodies in eye, ear and nose; drowning, artificial respiration; transport of the injured.

10. Lives of at least five eminent scientists and their experiments with truth.

11. The law of gravitation illustrated by the motion of the moon round the earth. The transit of Venus. The falling stars, nebulae.

Astronomical distance—(light years)—distances of the stars. Stars of the first magnitude and their distances. What is the Milky Way?

Shapes of nebulae.

The Calendar. The Solar and the Lunar systems of the calendar, Intercalary month (Adhikmas) Pope Gregory's reform. The modern proposals for reform.

How to know the exact time of night or day by watching the position of the sun or the stars; the date by watching the phase of the moon; and the month by watching the position of the moon in the constellations, and the season from the particular stars that rule the nights.

How to find the directions from the stars.

Modern achievements. What is spectrum analysis? The observatories of Ujjain, Jaipur, Sikanderahad and Kodaikanal, Greenwich, Mount Wilson.

What is in the interior of the stars?

6. DRAWING.

Grade I.

Noting colours in relation to each other—red with green, yellow with black, recognising colour in flowers, trees, fruits and birds.

Correct names of the colours. Colouring of hectographed outlines.

Idea of form and relation.

Blue sky and green fields: with crayon and then cut in coloured paper.

Different shaped leaves to be traced and comparative form to be shown—pipal leaf, banana leaf, etc.

Form of common vegetables and fruits, usually a large size (pumpkin, brinjal, carrot, melon, mango).

Memory drawing of common objects with coloured crayons.

NOTE.—Care should be taken to teach correct position and necessity for moving whole arm in drawing.

Grade II.

Drawing of objects connected with daily lessons. Illustrative representation to be usually in black or brown, if possible with colours, simple designs for borders with triangles, circles, semi-circles; simple flower units drawn or cut in coloured paper.

Landscape to be done with colour only—river, trees, birds, etc.

Drawing and cutting tree form with foliage.

Animals with their colours; common vegetables with foliage.

Practice for free arm movement and correct position.

Grade III.

Drawing of objects used in other lessons and in the home, from memory.

Scenes from home life.

Practice in drawing of trees, houses, and animals, using action lines.

Designing of borders with squares, oblongs and circles, colouring them differently, i.e., orange, green and purple.

Blending of colours—red and blue, blue and yellow, in two tones of gray,

Grade IV.

Some landscapes, flowers, leaves and butterflies in colours.

The near and far relations in nature and object-drawing.
The appearance of the near tree and the distant tree.

Drawing with the help of geometrical figures, flowers, leaves; in one colour and in several colours, complementary harmony and analogous harmony.

Decorative designs according to local tradition (e.g., Rangoli, Alpona).

Mounting drawing on harmonising back-ground.

Sketching of children and animals in action. Action should be shown by match-stick.

Posters illustrating some lessons in social-studies or general science for group work.

Grade V.

Closer visual analysis and faithful execution should be insisted on here. Work done in previous grades might be repeated with greater thoroughness.

Proportion, arrangement, relation of objects, colour values, massing, to be carefully studied.

Standard tints, shades; warm and cool colours, colour charts; colour scale in nature drawings made.

A leaf in different positions, sprays of leaves, pods in pencil, ink and colour by throwing shades on the walls.

Landscape for book covers, outlining masses with black.

Illustration of history, science and literature lessons.

Pose drawing from children in action, and from animals studied.

Poster for a 'school day'.

Grade VI.

Continue work in object drawing and designing.

Make an animal book for children of Grade I to be presented to them on the occasion of some festival.

Make posters for some social service campaign in the village (group work).

Scale drawing; making of plane scales; the use of scales in the construction; reducing, enlarging and copying of plane figures.

Grade VII.

Continue work in object drawing and designing.

Make a book of 4 landscapes for children of Grade II, decorating the title page with a coloured design.

Make posters for some social service campaign in the village.

Plans, elevation, and sections of solids in simple position.

Drawings and sections of objects to be made in the craft class.

The students of Grades I, II and III, should use only colours as far as possible; black and white may be introduced afterwards. Tracing from good pattern, and drawing pictures should be continued throughout the seven years (Grades I to VII).

PROPOSED DOMESTIC SCIENCE SYLLABUS FOR GIRLS FOR GRADES IV AND V.

(The syllabus for General Science being modified to include Domestic Science.)

Grade IV.

1. Hygiene—Care of the eyes, ears, nose, teeth and throat, dangers of spitting, mouth-breathing.

2. First-aid—Stings, ordinary burns, sprains, strains.

3. Needle-work—Running and filling, back stitching, cross stitches, chain stitch, repairing straight slits, gathering, hook-making, letter-writing by cross-stitching, more difficult repairing.

4. Home management—Airing and sunning of beds, floor covers, etc., keeping study room or bed room neat and clean.

5. Insect life, the mosquito, from the wriggler to the mosquito, mosquito and health problems; where do mosquitoes breed, malaria and its prevention; loss to the village community due to malaria; the bee and the ant; the division of work and social organisation.

6. Spiders, scorpions and snakes; the characteristics of spiders; how to distinguish them from insects; utility to man; destruction of harmful insects.

Recognition of poisonous and non-poisonous snakes; non-poisonous snakes as helpers of the agriculturists; first-aid measures in case of scorpion and snake bite.

7. The three states of matter; water as solid, liquid and gas; distillation and condensation.

8. Experiments to show that air is a material, a gas occupying space; experiments to show that air has weight and causes pressure; experiments to show that gases, liquids and solids expand and contract with change in temperature; experiments to show how evaporation cools.

9. Human physiology : the respiratory and the circulatory system; common infections and contagious diseases, cholera, plague, small-pox and malaria; how produced; how to prevent their spreading.

10. Stories of how from the earliest time the world over, man has been observing the sun, the moon and the stars and utilising this knowledge for calculating time and finding out direction.

Stories about farmers, travellers, sailors and generals of armies, how they have profited by the knowledge of astronomy.

The rising and setting of the sun and moon. The child is to be encouraged to observe that the same stars that set in the morning are to be seen to rise a little after sunset in the evening.

Phases of the moon : the bright and the dark half of the month; what they actually mean.

Observation of the exact point of sunrise and sunset and the rays of the light as they fall from the window on the wall opposite; the winter solstice and the summer solstice. (22nd December and 22nd June.)

Finding the northern point by observing the Pole Star and the Great Bear.

Observation of the eclipses of the sun and moon if there are any during the year.

(Insist on observation by the pupils. Organise frequent excursions. Prepare pupils beforehand for possible observations.)

11. The day, the month and the year are not arbitrary units but they depend on natural astronomical phenomena.

The day caused by the earth's rotation round its axis; division of a day into 24 hours or 60 *ghatis*, the latter being a more natural unit.

The month caused by the moon's circling round the earth from full moon to full moon or from new moon to new moon, the month being made up of nearly 30 days.

The seasons :—Winter, spring, summer, rains, autumn.

The eclipses of the sun and the moon. What causes them?

Grade V.

As in 1, 2, 3 and 4 outlined in grade IV, but more advanced work and in greater detail.

5. Poisonous and non-poisonous snakes, symptoms of poisoning and first-aid measures in case of snake and dog-bites.

6. Different kinds of food and their nutritive value; the digestion of food; the digestive system; what to eat; when to eat; the common drinking cup; its dangers.

7. Air: its composition; impurities; its purification; the function of trees in purifying air; air in a crowded room; methods of ventilation; draught, atmospheric pressure.

8. Water; composition; impurities; its purification; cholera; dysentery; typhoid and guinea-worm produced by impure water; precautions and safeguards.

Solution; solubility, saturated solutions, crystals.

9. Compass; magnetism, properties of a magnet.

10. Lightning and thunder, frictional electricity, simple voltaic cell.

11. Stories of eminent scientists, their search for truth.

12. The solar system :—the nine planets, the comets, the planets and their satellites, the rings of Saturn, the zodiacal light.

Geography of the moon; days when the moon is nearest to the earth and the days when the earth is nearest to the sun.

Grades VI and VII.

(Advanced course in Domestic Science for girls in place of Basic Craft.)

1. Hygiene—drugs, ophthalmia, diphtheria, dysentery, spitting.

2. First-aid—check bleeding, control fire, treat burn, fainting, hysteria, suffocation, foreign bodies in eye, ear, nose and throat, snake-bite, stings, dog bites.

3. Home nursing—room, bed, bedding, furniture, light, warmth, ventilation.

Nurse—health, dress, duties and qualifications of a nurse.

External remedies—poultices, plasters, fomentations, ice applications, baths—hot and cold, temperature of baths.

Food—kinds of food and preparation of same, way of serving.

The sick room—administration of medicine, pulse, and temperature charts, bathing, changing of garments and bedding.

Infections during illness—precautions during illness, disinfections (for rooms), clothing and bedding after illness, use of disinfectants.

Convalescence—occupations, visitors, rest, sleep and food.

4. Care and training of babes and children up to five years of age. Food, sleep, exercise, play, clothing, cleanliness of surroundings.

5. Household management:—

A. Choice of house, furniture and decoration; distribution of rooms; cleansing and care of house and furniture; disposal of refuse and sewage, precautions against flies and mosquitoes.

B. Duties of the mistress of the household, proper distribution of daily activities. Accounts and budgeting of expenditure.

(a) Needle work—cutting out and making two simple garments one for a child and one for a woman.

(b) Cookery—preparation of the following dishes :—

- (1) One milk dish—curd, butter, *khir*.
- (2) One kind of bread.
- (3) One kind of rice.
- (4) One vegetable dish.
- (5) One pulse dish.
- (6) One sweet dish.

(c) Preparation of the following articles :—

- (1) *Achars*.
- (2) *Papars, tilouri, danauri*.
- (3) Preservation of fruits and vegetables.



सत्यमेव जयते

SUGGESTED WEEKLY TIME-TABLE FOR BASIC SCHOOLS.

	Hours.
(i) Basic crafts—3 hours 20 minutes per day	20
(ii) Teaching of subjects	12
(iii) Recess periods	1
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	33
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Detailed distribution.

I. Correlated Mother Tongue—12 periods of 20 minutes each 4

H. M.

Correlated Arithmetic—8 periods of 20 minutes each	2-40	}	4
Correlated Music—2 periods of 20 minutes each	40		
Correlated Drawing—2 periods of 20 minutes each	40		
Correlated Social studies—5 periods of 20 minutes each	1-40	}	3
Correlated General science—4 periods of 20 minutes each	1-20		
Correlated Physical training—6 periods of 10 minutes each ... ..	...		1
			<hr/>
			12
			<hr/>

II. Basic Crafts—

Spinning—2 hours 40 minutes per day	16
Agriculture—40 minutes per day including observation of the environment.	4
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	32
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III. Recess 10 minutes per day 1

Grand total 33

The craft work will not be continuous. It will be alternated by work in mother tongue, arithmetic, music, drawing, social studies, etc.

Music is not compulsory.

Bihar GP (ED&E) 87—1,183—2N11-1940—SCM. & others.